A JOINT

GOVERNMENT OF SENEGAL
MINISTRY OF HEALTH

AND

GOVERNMENT OF THE UNITED STATES
AGENCY FOR INTERNATIONAL DEVELOPMENT

END OF PROJECT EVALUATION

OF THE

SINE SALOUM RURAL HEALTH SERVICES DEVELOPMENT PROJECT

(NO. 685-0210)

THE U.S. TEAM REPORT

July, 1982

TABLE OF CONTENTS

CLASSIFICATION

PROJECT EVALUATION SUMMARY (PES) – PART I

Report Symbol U-447

1. PROJECT TITLE	2. PROJECT NUMBER	3. MISSION/AID/W OFFICE
Rural Health Services Development Project	685-0210	USAID/Senegal

4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY)

☒ REGULAR EVALUATION ☐ SPECIAL EVALUATION

5. KEY PROJECT IMPLEMENTATION DATES			6. ESTIMATED PROJECT FUNDING	7. PERIOD COVERED BY EVALUATION
A. First PRO-AG or Equivalent FY 77	B. Final Obligation Expected FY 83	C. Final Input Delivery FY 84	A. Total $ 3.6 million B. U.S. $ 3.3 million	From (month/yr.) Sept. 1980 To (month/yr.) July 1982 Date of Evaluation Review May 1983

8. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
Decisions:		
1. Extend project to Phase II. Pending design and approval of second phase, extend PACD to December 31, 1983 and increase LOP by 10%.	Dr. M. White, HPNO, USAID/ Senegal	December 31, 1982
2. Design Phase II and submit PID to AID/W for review.	Dr. M. White HPNO, USAID/ Senegal.	July 31, 1983
3. Integrate current project into GOS Ministry of Health's organizational and operating structures and appoint senior GOS health specialist as counterpart to Project Manager	USAID/MOH	December 31, 1983
4. Reduce recurrent costs by eliminating indemnities for GOS personnel assigned to project and dropping second mobylette in each health post.	USAID/MOH	Janvier 31, 1983
Outstanding Issues		
- All supervision costs in Phase II should be supported by GOS and beneficiaries.	GOS/AID	
- Establish a reginal pharmacetical depot prior to implementation of Phase II to assure timely and reliable resupply of drugs at a reasonable cost.	GOS	

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS

☐ Project Paper ☐ Implementation Plan e.g., CPI Network ☒ Other (Specify)
☐ Financial Plan ☐ PIO/T Extend PACD
☐ Logical Framework ☐ PIO/C ☐ Other (Specify)
☐ Project Agreement ☐ PIO/P

10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT

A. ☐ Continue Project Without Change
B. ☐ Change Project Design and/or
☒ Change Implementation Plan
C. ☐ Discontinue Project

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)

George Jones, Team Leader, REDSO/WA
Turra Bethume, AID/AFR/DR/MN, Washington
Richard Osmanski, Office of Inter-Health, PMS, Washington

12. Mission/AID/W Office Director Approval

Signature
Typed Name David Shear,
Date May 31, 1983

AID 1330-15 (3-78)

13. Summary

This project was first evaluated after approximately two years of implementation. The evaluators found that the project was non viable because of a combination of factors relating to incorrect design assumptions, to inadequate attention to project management by both USAID/Dakar and MOH/Dakar personnel, and to MOH policies which were not supportive of project goals.

The project was redesigned such that its scope was reduced by 33%, both the USAID and MOH personnel responsible for project management were significantly increased and, the MOH instituted policy requiring payment of user fees and local management of those fees.

All project personnel were retrained, supervision was intensified, collaborative implementation between USAID and MOH personnel was stressed. Two years later, the project was evaluated a second time by a team of senior experienced Senegalese and AID evaluators. They agreed that the project had made tremendous progress, in fact had become as intended, a model for delivery of primary health care services. There remain problems that must be addressed before the delivery system will have a maximum impact on morbidity and mortality and before the system's recurrent cost can be assumed by a combination of governmental and private funding mechanisms. Technical packages such as oral rehydration, immunization and growth monitoring must be introduced and a way to pay the transportation costs of supervision by local communities must be identified.

To adequately address these problems the evaluation team strongly recommended a second phase project. USAID/Senegal enthusiastically agreed and is currently designing the phase II project.

14. Evaluation Methodology

An in-depth evaluation of beneficiary attitudes, health worker attitudes and practices and the financial viability of the health hut pharmacy was carried out in forty of sixty villages which had received intensive supervision during the last two years of the project and in twenty of 318 villages which had received a normal amount of supervision. Villages were chosen using a random sampling method.

Questionnaires were completed at the village level by six two-person teams each composed of a departmental supervisor from the Ministry of Social Development (not from Sine Saloum) and a senior student from the CESSI, a postgraduate nurses/midwives' training institution which teaches pedagogy and management.

This raw data was analyzed and a report prepared by a team of six senior Senegalese - a demographer and an economist from the Ministry of Health, two economists from the Ministry of Plan, the director of rural and urban animation from the Ministry of Social Development and a senior administrator from the Ministry of Interior.

The original concept involved a team of AID technicians working with the team of senior Senegalese to prepare a truely joint evaluation report. Unfortunately the Senegalese required more time than anticipated to finish their analysis and were not prepared to write a joint report when the AID representatives arrived in July 1982. The AID team consisted of the REDSO/WA public health advisor who had

previously been the health officer in Niger where he managed the largest PHC program AID funds in Africa, a public health nurse/health planner on the staff of AFR/DR/HEALTH who had previously been responsible for the design of a thirty million dollar PHC program in Cameroon and a management intern in the ST/Health Office.

Each team wrote an independent report. They agreed in general but differed on at least two important points. Both reports were widely circulated among the regional MOH staff in the Sine Saloum Region and among the senior MOH staff in Dakar. Two separate meetings were held with these officials to review and accept or reject the various findings of both reports. Summaries of both meetings were prepared and on the basis of these summaries the MOH Programs Coordinator prepared a synthesis document for the Minister of Health.

These summary recommendations became the basic working document - the policy guidance - for the phase II project design team.

15. External Factors

None.

16. Inputs

Construction/renovation, equipment, supplies, training and technical assistance have generally been provided in a timely manner.

17. Outputs

See Summary, item 13.

18-19. Purpose and Goals

The initial purpose of the project was two-fold: 1) establish a network of 600 village health posts staffed and supported by 1800 community level personnel in 6 departments of the Sine Saloum region; and 2) to improve and stengthen the support infrastructure of the Government of Senegal for services to health centers.

The project assigned much of the responsibility for the local health operation to the villagers themselves, who were to build health huts through a network of management committees and rural community councils. They were also responsible for resupplying these huts with basic drugs needed to treat the major illnesses of the region. The costs for pharmacenticals and services were to be borne by the villagers.

In April 1980 an impact evaluation identified serious implementation problems, namely: financial pharmaceutical resupply, selection and payment of village health workers, transport for supervision and logistics and village health committee support.

The GOS and USAID/Senegal responded immediately to the findings of the impact evaluation and from July to September 1980, the project was redesigned to address the problems identified in the impact evaluation.

The redesign emphasized the need for: (1) an improved management structure; (2) additional training for village management committees, (3) retraining for VHW's; (4) improvement in the drug resupply system; and (5) health hut financial viability. The redesign limited the project to four departments within the region, and that it focus on only 20 rural communities and 60 selected villages within those communities. The purpose of the more limited focus was to slow the pace of implementation in order to more effectively organize and train village health committees and develop a health infrastructure that would adequately support the system.

20. Beneficiaries

The primary beneficiaries are the inhabitants of outlying villages of secondary rural towns within the four departments of the Sine Saloum region where the project has been introduced. MOH staff have also received training in primary health care, management and supervision techniques.

21. Unplanned Effects

A change in GOS policy introducing user fees for health services and local participation in financial management of user fees.

22. Lessons Learned

I. Begin all project activities which require significant financial participation by villagers on a modest scale.

II. Early frequent evaluations of project activity will identify problems and can turn around an unsucessful project.

III. Direction of such projects should be in the hands of committed, competent, full time host country nationals. USAID must, however, provide adequate technical and management expertise, in the form of long term advisors, to assure that USAID rules and regulations are followed and that the newest technical concepts are at least tested for local applicability. This advisory role can not be filled by USAID health office personnel.

IV. Payments of salary supplements to most project personnel is considered counter productive by both USAID and the host government.

V. A government whose macro-economic situation is as tenous as Senegal's can not be expected to pay the recurrent costs of Community Health Worker's supervision in such a program.

VI. At least eight to ten years is required to both test different approaches to delivery of health services at the village level and to define workable systems through which local communities will pay the majority of the recurrent costs of such a system.

VII. Policy changes by the Government can make an enormous difference to the chance of success of a given project.

VIII. Organizing a truly collaborative evaluation process involving upper middle level officials and representatives of AID in a manner that they can reach joint conclusions based on field of work requires lengthy intensive staff work by USAID personnel but is worth the effort.

23. Special Comments or Remarks

None.
(Attachments - Evaluation Report).

EVALUATION INFORMATION REQUESTED BY AFRICA BUREAU

Question I : What constraints does this project overcome and who does it constrain?

Response : This project attempts to overcome structural, resource and technological constraints.

Structural Constraints

A) A MOH health delivery system that does not reach the majority of the rural population;

B) Personnel assignments insufficient for adequate supervision; and

C) No MOH transport capability for supervision and logistical support.

Resource Constraints

Limited MOH facility, manpower and financial resources to extend health services.

Technological Constraints

Limited expertise in village - based health services approach, using local personnel and financial resources but requiring MOH supervision and support. Requires new training, supervision, information, transport and logistical technologies.

Question II : What technology does the project promote to relieve this constraint?

Response : A. The project promotes primary health care (PHC) related technologies to extend health services to rural populations in Senegal to include:

-- training village health committees and villagers to elicit village support;

-- training and role redefinition of MOH middle level health workers (MLEWs) to support and reinforce village health services;

-- targeted preventive health measures such as immunizations and infant nutritional surveillance;

-- Planning capability based on management information system (MIS) to improve resource allocation;

-- restructuring of supervision;

-- use of essential drug list to improve cost effectiveness of health care;

-- employment of appropriate least cost means of transport.

B. The project enhances the potential for developing finding workable solutions to bottlenecks such as appropriate transport, hut financing, hut management, and information systems designed for illiterates.

Question III : What technology does the project attempt to replace?

Response : Project attempts to supplement efficienctly the existing health infrastructure. This infrastructure utilizes highly skilled manpower located in sizably equipped facilities that incur substantial investment and operating costs while serving a limited number of people. The project will expand the existing system to reach more people at less cost.

Question IV : A. Why do project planners believe that intended beneficiaries will adopt the proposed technology?

Response : Intended beneficiaries have already adopted the proposed technology as evidenced by 1) a decrease in MOH health post utilization and a comparable increase in village health hut utilization; and 2) village remuneration of VHWs.

B. Does the new technology provide substantial economic incentives?

Response : The project approach enables the MOH to substantially increase the numbers of persons served with minimal increase in MOH personnel. Secondly, cost for expanding services is shared with beneficiaries of the services through payment of drugs, construction of health huts and village health worker (VHW) remuneration. Third, the approach develops a structure for implementing preventive health measures known to significantly save lives and reduce disability (immunization and child nutrition surveillance) at a reasonably low cost. Fourth, improved accessibility to health services and early treatment of health problems increase small farmer productivity because early treatment reduces time lost in fields. This is particularly true during planting seasons which is also the time when the population is most susceptible to debilitating diseases.

Question V : What characteristics do intended beneficiaries exhibit that have relevance to their adopting the proposed technology?

Response : The culture provides for communal decision making which is essential to health hut and VHW support and the villagers are open to modern medicine.

Discussions with local administrators and villagers and review of the press demonstrate the enthusiasm and support of this primary health care approach.

Question VI : A. What adoption rate has this project or previous projects achieved in transferring the proposed technology?

Response : The rate of adoption has been good. Some health huts, out of 378, have been in operation for nearly three years. Other huts had failed financially but have restarted. There is now a growing demand for health huts from adjacent Departments not currently included in the project area.

B. Why have or why have not intended beneficiaries adopted this technology?

Response : The villagers have adopted the technology because it addresses a felt need. Travel time and cost for health care are substantially reduced which is even more meaningful to an ill person.

Question VII : Will the project set in motion forces that will induce further exploration of the constraint and improvements to the technological package proposed to overcome it?

Response : The project has already brought this about. The MOH now realizes the need for a vehicle repair and maintenance capability and drug resupply capability. Secondly, the MOH is careful monitoring the project to determine the potential for replication outside the Sine Saloum Region. Consequently, cost issues are being raised and there are plans to address them.

Question VIII : Do private input suppliers have an incentive to examine the constraint addressed by the project and come up with solutions?

Response : The only project input that is a commodity that can be supplied are drugs and medical supplies. At present, the expatriate financed and owned private sector for pharmaceutical cannot compete with the lower priced semi public-private national drug outlet, PHARMAPRO. The volume in question is too low because the project is limited in scope and the essential drug list is short, listing a few common, low-cost drugs such as aspirin. At the current demand level, it is unlikely that an indigenous entrepreneur would have a large enough market to locally produce the drugs in question.

In regard to private sector providers of health care, the limited number of skilled health workers in Senegal are not interested in serving villagers in remote rural areas nor would their numbers permit adequate provision of services. The VHWs are the private sector providers of health care in rural Sine Saloum.

Question IX: What delivery system does the project employ to transfer the new technology to intended beneficiaries?

Response : Through MOH support and supervision, MOH-MLHWs are trained to train and support village health committees in the financial management of drug supplies and VHWs in the provision of PHC.

Question X : What training techniques does the project use to develop the delivery system?

Response : Many. Trainers, supervisors, MLHWs, village committees and VHWs have all been trained and continue to receive in-service training.

ACKNOWLEDGEMENTS

The U.S. evaluation team wishes to express its appreciation for the efforts made by all persons contacted to assist in this evaluation of the Sine Saloum Health Project.

We are grateful for the encouragement of the Ministry of Health officials whom we contacted. Of particular note was the discussion of project needs and potential with the Minister of Health and the substantive discussions held with the Director, Research, Planning and Training; First Technical Advisor; and Director, Hygiene and Health Promotion. The team appreciated these informative discussions and the Ministry's assistance.

Additionally, we found the personnel of USAID/Dakar mission, particularly the Health Office, supportive. The Health Office tried to keep the evaluation on schedule, and their prompt responses to our questions were sound and showed thorough understanding of the project. The insights offered by the Mission Health Officer, Dr. White, his generous contribution of time, were of particular importance as we synthesized Project information. Project personnel, particularly Mrs. Aida Lo and Mr. Sangone M'Boup, were also very cooperative; data and analysis were readily supplied when requested, and changes in schedules graciously accepted. A significant portion of time was spent on project issues and background discussions with Project staff and their assistance and insights were most helpful.

The Dakar evaluation team members are certainly to be thanked for their cooperation and efforts to brief us on their findings. Particularly, the U.S. team wishes to thank Mr. Elhadj Diame, Statistician with the Ministry of Health; Mr. Idrissa Diop, Economist, who enthusiastically accompanied the U.S. team to the field for project interviews; Mrs. Astou Diagne, Economist with the Ministry of Planning; Mrs. Rosaline Murray, Economist with the Ministry of Planning; Mr. Ousmane Samb, Director for Urban and Rural Sectors, Ministry of Promotion Humaine; Mr. Samba Diakhate, Civil Administrator for local collectivities; and Mr. Ehadj Cisse, Regional Administrator for Promotion Humaine.

The U.S. team is grateful, also, for the assistance of Mr. Bill Anderson, Program Officer, from USAID/Dakar, during the field visit and analysis stages of the evaluation effort. His insight and comments were highly appreciated.

As a most special thanks, the team wishes to express its gratitude to Ms. Paulette Chaponniere, Planner and Public Health Nurse, for her important assistance. Her thorough Project knowledge and professional insights, and her deep and warm understanding of the Senegalese people and their needs made our work easier. Her difficult tasks of anticipating and meeting the needs of the U.S. and Senegalese teams and those of the AID/Health Office and her participation in all team activities and inquiries were indispensable.

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SECTION ONE

PROJECT DESCRIPTION

Background and Purpose of Project Design

The Government of Senegal through an AID four year grant of $3.3 million began the Sine Saloum Project in August 1977. The purpose of the project was two-fold:

1. Establish a network of 600 village health posts staffed and supported by 1800 community level personnel in 6 departments of the Sine Saloum Region.
2. To improve and strengthen the support infrastructure of the Government of Senegal for services to health centers.

The project assigned much of the responsibility for the local health operation to the villagers themselves. The villagers were to build health huts through a network of management committees and rural community councils. They were also charged with the task of reequipping these huts with basic drugs needed to treat the major illnesses of the region. The cost for the pharmaceuticals and services were to be borne by the villagers.

In order to facilitate the development of a uniform rural health system, the project was to provide the following:

1. Construction, equipment and supplies:
   - Renovation of 58 existing health posts, construction of 15 new health posts and renovation of the Khombole School of Sanitation;
   - Provide equipment for 79 existing and new health posts;
   - Provide equipment and initial medical stocks for 600 health huts;
   - Provide financing for 17 vehicles, 76 horses and buggies, audio visual aids, literacy manuals and teaching materials.
2. Training:

   The project design also called for:

   - Inservice training program for VHWs and their supervisors;

- Literacy training by Promotion Humaine for Rural Community Council members;
- Short-term technical assistance in training, designs, extension work and curriculum development at Khombole School;
- Training stipends for 40 sanitation students at Khombole School;
- Expense for VHWs during training.

3. Technical Assistance:

In order to support the existing system, three levels of technical assistance were planned:

A. nurse/midwife training

B. health education

C. public health administration.

4. Travel:

In view of the geographic distances to be covered in the operation of the project monies were made available for travel for supervision, literacy training and animation activities.

In April 1980, two-thirds of the way through the life of the project, USAID conducted an impact evaluation which disclosed that the project had serious problems. One-third of the village health huts opened had already closed. The evaluation noted the principal problems to be financial viability, support and supervision, and pharmaceutical resupply. Other problems cited concerned the selection of village health workers (VHWs), transport for supervision and logistics, location of huts, payment of VHWs, and village health committee support.

The GOS and USAID/Dakar responded immediately to the findings of the impact evaluation. From July through September 1980, the project was redesigned to address the problems cited in the impact evaluation.

The redesign of the project emphasized: need for: 1) improved management structure, 2) additional training for village management committees 3) retraining for village health workers, 4) improvement in the drug resupply system, and 5) health hut financial viability. The redesign limited the project to four departments within the region and proposed that the project focus on only 20 Rural Communities and 60 selected villages within those communities. The purpose of the more limited focus was to slow the pace of implementation in order to more effectively organize and train village health committees and develop a health infrastructure that would adequately support the system.

I. SUMMARY OF RECOMMENDATIONS

Section II of this report assesses in detail each component of the project and lists associated evaluation team recommendations of which there are many. The following is a summary of the most important recommendations or those requiring immediate action:

1. A Phase II of Rural Health Services Project should be designed and implemented with USAID support.
2. The Phase II Project Director should be a Regional Medical Officer chosen for his interest and experience in Primary Health Care. The Director should have a background in planning and administration as well as the fundamentals of epidemiology.
3. The project should be fully integrated into the Ministry of Health. The project components to be integrated and maintained include: 1) overall management and supervision, 2) training, 3) information systems, and 4) vehicle maintenance and repair capabilities.
4. To house project management at the Regional level within the Bureau of Health Inspection of the Ministry of Health an Office of Primary Health Care should be established. This office would include: 1) Team leader, 2) coordinator for training, 3) coordinator for supervision, 4) coordinator for MCH, 5) coordinator for pharmacy, and 6) coordinator for sanitation.
5. A regionally based PHARMAPRO subsidiary should be established in Kaolack to increase efficiency of pharmaceutical distribution. USAID should assist in its establishment.
6. A national training center for primary health care should be established at the Regional Project headquarters. This center would provide orientation and inservice training to project staff as well as to PHC workers from outside the region.

7. A regional Ministry of health vehical maintenance and repair facility should be established with USAID assistance.
8. A health status surveillance system should be implemented with the development of an expanded program of immunization, oral rehydration program and a childhood nutrition surveillance program.
9. Indemnity system of motivations should be phased out and replaced by an alternative acceptable to the Government of Senegal and the Ministry of Health.
10. The continuing cost of maintenance and repair of vehicles as well as the cost of gas and oil should be transferred from USAID to alternative sources of support.
11. Village Health Worker per diems for one day per quarter inservice programs should be born by the village rather than USAID. Also support for VHW pre-service training by USAID should be withdrawn.
12. The cost of initial pharmaceutical and medical supplies is small enough so that it should be born by the villages rather than by USAID.
13. Any future facility construction financed by USAID should be linked to a GOS, MOH budget line item for facility maintenance.
14. Based on skill requirements, in future staffing of sanitation functions, routine posting of sanitation agents rather than sanitation technicians at the health post level would be appropriate.
15. Provide regular inservice training to all health hut staff and to village health committees. Both staff and committees are critical to hut function and viability.
16. In conjunction with Phase II planning the GOS and USAID should conduct an economic study to determine the recurrent costs associated with the PHC program as modified by this project evaluation and its recommendations.

17. Existing data should be further evaluated dynamics between the health post and its affiliated health huts. This analysis should consider: 1) the cost implications to the MOH, and 2) the cost implications to the beneficiaries.

This study should be performed by qualified outside consultants and should recommend how to maintain and utilize data to monitor this important issue.

18. The Government of Senegal should, as part of Phase II, contract with a qualified institution to provide regular, periodic short term technical assistance. The T.A. team leader should have health planning and administrative experience and be personally involved in provisions of T.A. as well as supervising other consultants. Continuity and the ability to deliver consultation in the broad diversity of technical project areas is essential.

19. Geographic expansion of this project should only occur after:

- Project management is successfully integrated into the Ministry of Health.
- Indemnities are eliminated as motivational tool.
- PHARMAPRO has established an operating regional subsidiary for pharmaceutical distribution to health huts.
- The Ministry of Health has the capacity to maintain and repair its vehicles at the regional level.

II. MAJOR ISSUES

This evaluation team saw its role as assessing project progress and accomplishments to facilitate project evolution. However, our initial contacts with USAID/Dakar, the Ministry of Health and project personnel focused attention on specific issues. Ministry officials, including the Minister of Health, USAID/Dakar and project staff wanted us to examine project accomplishments and the broader issues of: 1) political acceptability, 2) beneficiary satisfaction, 3) program integration, 4) rational use of resources, and 5) replicability/extension.

Issue 1: Political Acceptability

The health plan for Senegal states the following as objectives:

- Develop and strengthen the health infrastructure;
- Develop activities concerning Public Health;
- Develop and intensify the professional training of health care personnel;
- Amplify the application of primary health care activities.

In addition, in discussion with MOH officials, two additional objectives were expressed:

- Develop affordable means for the delivery of PHC; and,
- Elicit the strong and active participation and support of the population in the amelioration of their health status.

Response:

The project's goals, purpose and implementation confirm our view that the project is consistent with the country's global health plan, and contributes to the attainment of its objectives. In the Sine Saloum region the project

is establishing an infrastructure for village level PHC, is introducing preventive health activities and is training personnel. The training of the village health committees and the work of the Promotion Humaine and sanitation technicians are eliciting the active involvement of the population. The relative affordability of these health services however, is not yet determined. A recurrent cost study was conducted in May 1982 but was inadequate. All parties are aware of the importance of this issue. Further study will be undertaken.

The team discussed the project's political acceptance with the Ministry officials in Dakar, the Gouvernor of the region, several Sous-Prefets and village chefs in outlying regions. Without reserve, at each level enthusiasm and support were expressed. The team also noted considerable understanding and knowledge about the project on the part of these officials. The team could only conclude that the project has been well received and is supported by Senegal officials in the project area.

Issue 2: Beneficiary Satisfaction

Response:

The project's intended beneficiaries are the inhabitants of outlying villages of secondary rural towns. The health hut system is intended to bring health care and sanitation services to these people and to decentralize the delivery of services one step closer to the person in need. The U.S. evaluation team's observations and interviews, and the Senegalese evaluation team's survey confirmed the attainment of this objective. The Senegalese team's criteria for beneficiary satisfaction were (1) the acceptability and accessibility of services, (2) the availability and affordability of drugs, and (3) the beneficiary participation in and control of services.

1. Acceptability and accessibility of services: A Senegalese May 1982 survey showed that nearly 99% of 383 villagers from villages with huts who were interviewed expressed satisfaction with the care received from the village health huts. The U.S. team found in its field visits clear evidence of village utilization of hut services. Data from three health posts and their associated huts showed a 40% decrease in health post visits with a corresponding increase in total hut visits. This data, plus a review of other health hut records to verify visit rates, suggested general village acceptance of health hut services.

In regard to accessibility, the Senegalese survey showed high hut utilization among 696 villagers interviewed in the villages and surrounding areas of 40 huts. Ninety-eight percent of the men (238) and 92% of the women (458) interviewed reported having used a hut for care. The implication is that the villagers have access to hut services, but when disaggregated by distance, the degree of accessibility is altered. Of those living in a village with a hut, 99% reported having used the hut, while of those living in satellite villages however, 96% of the men and only 83% of the women interviewed used a hut for health care. Most satellite villages average about three to five kilometers from the hut village. A distance of more than five kilometers appears to affect accessibility, particularly for women.

The conclusion is that the project has significantly improved the accessibility of villagers to PHC and that village acceptance of health hut services is notably high.

2. Availability and affordability of drugs: The 1980 impact evaluation concluded that most huts were on the verge of collapse for two basic reasons: finances and availability of drugs.

The drug availability has improved since the evaluation, but resupply continues to be a major problem. Resupply interruptions and generally slow "turnaround time" for filling drug orders persists because of absence of a reliable regional source of low cost drugs and medical supplies. Nevertheless, the communaute rurale depots are now better stocked than in 1980, and seem better able to resupply the huts on demand. Moreover, the utilization rates of the huts suggests that drugs are for the most part available. The eight huts visited by the evaluation team had adequate supply of drugs and medical supplies.

The turnover of drugs and medical supplies at the huts suggests that they are affordable; however, it is not known if price is an obstacle to receiving services for some villagers. During the rainy season, which is also the pre-harvest season, when people are more at risk of illness and have less financial resource, the utilization of hut increases significantly. This suggests affordability. As the need for drugs increases and ability to pay decreases, villagers are, in general, still purchasing drugs.

3. Beneficiary participation and control: The Senegalese survey found wide-spread understanding among villagers regarding the functioning of the hut and its management committee. The U.S. team reviewed the management committee records on drug and medical supplies and cash flow and found them to be most useful for management purposes. With the assistance of Promotion Humaine, health post nurses and TAIs have introduced concepts of primary health care to the villagers and have encouraged them to organize and support village run health committees and health huts. Villagers form health committees, build their own huts, and select their own VHWs for training. Although the health

post nurse and TAI train the VHWs and health committees and later provide technical supervision and support, the management, financing and control of hut services rest with the village. Without village participation and responsibility, the health huts would not be viable. It is the conclusion of the team that villagers are participating in the management of village health services and activities.

Issue 3: Integration

Response:

The concept of project integration, geographically and into the organizational structure of the MOH, is an ideal.

The team observed a dual management structure for village level Primary Health Care. At the regional level project staff manages in coordination with regional MOH staff. However, at the department and communaute rurale levels, MOH personnel are responsible for project implementation; they are doing so at the direction of region level project staff rather than MOH staff. Village level health services are linked to and supported by MOH staff at the rural health post level. There is now integration and coordination of the program from the village level to the department level.

The project staff at all levels have created an effective vertical structure for program execution. The vertical training and supervision components have strengthened the health system. Presently this system is parallel to the MOH structure which includes a data recording and information system, with separate lines of authority and supervision. The MOH structure also includes a training capability.

If this program is to be sustainable, the parallel activities and capabilities must be integrated into the MOH organizational and operating structure. Many Senegalese interviewed expressed concern over the non-integration of project activities into the MOH at all levels.

In the opinion of the evaluation team, full integration can be accomplished within two years and, if requested by the GOS, AID should promote this integration.

Issue 4: Rational Use of Resources

Response:

The team reviewed project expenditures as reported in Les Soins de Sante Primaire au Sine Saloum: Evaluation de Depenses Recurrentes du Project USAID/Senegal. The team considered the project funds to have been rationally used, with the exception of the following:

1. Initial overstocking of drug supplies, which resulted in wastage.

2. Initial purchase of horses and buggies to be used for supervision and support. (This mode of transport was never accepted by the post nurses and TAIs).

3. Extensive misuse of vehicles by project chauffeurs resulting in high cost of repairs. Vehicle maintenance is poor and adequate caution is not taken during movement through precarious terrain.

4. Underutilization of available funds for technical assistance. Selective periodic technical assistance would provide new ideas, give project staff frequent technical feedback and assist implementation of program components.

5. A serious misuse of funds has been the payment of indemnities to MOH personnel. Indemnities are being used to motivate people to do work which is part of their regular responsibilities.

None of the apparent misuses is a result of mismanagement except, perhaps, negligence in supervising chauffeur use of vehicles. The initial overstocking of drugs and purchase of horse and buggies were the result of errors in project design. The project has learned from these decisions. Future use of project funds would be more rational if: 1) technical assistance is utilized appropriately and 2) indemnities are eliminated.

Project expenditures for training and transport have been appropriate. The MOH will have to assume the recurrent costs of these expenditures.

Funds were initially needed to develop and support a training and supervision capability and the transportation of supplies. These new and strengthened capabilities should now permit the MOH to (a) introduce and sustain targeted preventive health measures that can significantly alter health status such as the EPI, ORT and infant nutrition surveillance; and (b) meet a heretofore unmet need and demand for health services. With external support for village health services, beneficiary financing has been sufficient to ensure village level operations. The increased availability and accessibility of services partially financed by the villagers should assist in preventing problems and effect earlier diagnosis and treatment of problems, avoiding the social and economic cost of preventable and unnecessarily advanced treatable conditions.

Issue 5: Replicability/Extension

Response:

We are pleased that the GOS is desirous of replicating and extending the USAID rural health services project to other regions. In principle, the evaluation team wholeheartedly supports this objective and feels that efforts

should be directed towards this end. Before expansion to other regions, however, the team strongly recommends certain conditions be met. If the project is extended prematurely to other areas, great losses can be expected in time, energy and money. As the country moves forward using its own limited resources, such testing and experimenting becomes costly and would be imprudent. Planning from strength becomes even more important in view of the investment of the beneficiaries themselves both in time and monetarily in the development of their health care services. Every effort must be made to insure success of the community involvement groups.

The team feels that there are four critical concerns which must be addressed before extending the program to other regions. These major concerns are as follows:

1. Parallel management. It is recommended that an Office of PHC be created within the Bureau of Health Inspection under the direction of the Regional Chief Medical Officer to manage the PHC program within the MOH.

2. Payment of indemnities. Indemnities should be eliminated since the GOS will not be able to assume this cost. Other means of motivating MOH personnel to fulfill their regular job responsibilities should be sought.

3. Unreliable source of regionally available, low-cost drugs supply system for health huts. It is recommended that the existing drug depots at the department and region levels be combined into a single depot at the region level and operate as a subsidiary of PHARMAPRO to alleviate the chronic pharmaceutical distribution problem.

4. Nonexistence of a regional MOH vehicle repair and maintenance capability. It is proposed that a MOH garage be built and equipped.

Given that the project is consistent with the GOS Plan for Health, is locally supported by administrative officials as well as beneficiaries, can potentially be integrated into the MOH and appears to use limited resources appropriately, the team would endorse the extension of this project to other regions and departments of Senegal. The evaluation team believes that with USAID assistance resolution of the four problems can be accomplished within two years.

III. USAID AND MOH PROJECT MANAGEMENT AND SUPPORT

The Ministry of Health (MOH) and USAID/Dakar have made progress in bringing support and supervision to the Rural Health Services project. Lines of communication are open and frequently used, resulting in both parties being responsive to the concerns and requests of the other.

MOH DAKAR

One of the important assumptions in the development of the project was that the GOS provide adequate staff financing to support the rural health care delivery system. Seven categories of health personnel were mentioned as being critical:

Regional Medical Officer

Project Coordinator

Regional Supervisors

Department Supervisors: MOH and Promotion Humaine

Health Post Nusrses

Sanitation Agents

Regional Pharmacist

With the exception of a Promotion Humaine Assistant in each department, the GOS has fulfilled its contractual obligations including adding 44 Khombole graduates to the work force.

Progress was made in taking the direct management of the project out of the office of the regional Governor who did not have the time to direct the project as was required.

The RMO has not been directly involved in the day-to-day operation of the project and has, therefore, given the project little active direction over the last two years. The project coordinator subsequently played a strong role in directing the project. As a result, the Departmental Medical Officers, who are supervised by RMO, have not been involved in or informed of project decisions as they should have been. Secondly, as a result of lack of leadership from the RMO, the integration of "project activities" with MOH region activities in PHC has not occurred.

Interviews with Department Chief Medical Officers and Department Nurse Supervisors indicated that role definitions also spelled out in Project Grant Agreement have not been accomplished to date.

Finally, the MOH has not decentralized drugs and pharmaceutical products to the region level in accordance with PGA. USAID and the MOH have however reviewed the drug resupply problem at all levels. Central and regional meetings have been held to resolve their findings which show that, to date, simplified inventory control, reorder cycle, and distribution systems, essential components of this project, are not in place. Central level pharmaceutical management personnel will soon be sent to observe other drug resupply systems in Togo, Niger, and Tunisia.

USAID DAKAR

In keeping with PGA AID/Dakar has provided project management through its Health Officer, Dr. Mike White. It has also provided technical advisors for Health Training and Community Development.

Observations: In spite of their compliance to the PGA, the Evaluation Team feels that the Mission could have provided more timely and appropriate technical assistance.

More and better qualified technical assistance in MIS, management and planning, vehicle maintenance and repair, health education and drug resupply would have greatly benefited the project in the last two years.

The evaluation team noted that the project staff members were often doing jobs themselves that should have been done by region MOH personnel. The use of the Dakar based Mission Health Officer as the principal USAID person to technically monitor the project and provide technical assistance has not been effective because of his physical distance from the project and the other demands on his time as USAID Health Officer.

The decision -making process of the MOH and USAID has been rather good, despite the lack of a MOH project officer at the Ministry level in Dakar to coordinate with USAID/Dakar. There have been however USAID/MOH project management decisions which have not shown a full consideration of the potential to create negative incentives. For example, the payment by the project of mobylettes repair requiring over 6,000 CFA is contrary to the project agreement which states that the MOH or Health Post personnel will provide maintenance and operating costs. Project payment of these costs perpetuates the program's dependence on outside support of the recurrent costs. Secondly, the project budget allows for indemnities for training and travel. Perhaps, a change in implementation policy would have been appropriate earlier as the implications of indemnities became clear. The MOH cannot and will not

assume these costs. The payment of indemnities has created an expectation by MOH personnel in the program to be compensated above and beyond their salaries for doing what is essentially their job. Although the project activities have increased work efficiency, it has not increased work time, therefore indemnities are inappropriate.

USAID/Dakar has endeavored to provide necessary management support assigning from time to time three or four individuals to assist the Kaolack staff with project implementation. However, high staff turnover in USAID and the MOH have impaired management efficiency. The mission has recently taken steps to improve management by assigning the project manager responsibility for communication and coordination with the Kaolack staff. The evaluation team also recommends that the USAID Health Officer confer more frequently and on a regular basis with the MOH RMO in Kaolack. Decisions should be made jointly. This arrangement would strengthen project leadership from the MOH in Kaolack and facilitate the function of the project management of activities at the region level.

Finally, it should be noted that project implementation was delayed by slow action of AID/Washington. It took eight months for AID/Washington to approve the redesign plan. As a result, the new project agreement was not signed until September 1981, ten months prior to this evaluation.

In summary, despite problems with MOH, USAID/Dakar and AID/W management and support, the total picture is positive. Problems have been identified but the project accomplishments and day-to-day management of this project by both USAID and MOH parties is very encouraging. The interest and support of both parties, the established and well utilized lines of communication between the parties involved, and the recent management history of this project make a successful Phase II quite likely.

IV. LESSONS LEARNED

For Project Design

1. For PHC, community participation in management and financial support is essential for preserving continuity and guaranteeing continued village support. Outside resources should not preclude local participation (For example: USAID financing of VHW training.)

2. The mid-level health workers (MLHW) are the pivotal cadres in a PHC program. Their support and supervision is essential to village level health improvement. MLHW's merit a concentrated and sustained training effort to develop their capabilities to support village health workers.

3. Sanitation agents play an important role in preventive health activities and maintain a balance between curative and preventive health care at the village level.

4. Essential drugs are vital to establishing health hut credibility. Initial drug inventories should reflect hut utilization rather than population size.

5. Cooperative country inputs should be carefully analyzed to determine possible negative consequences of contributions, i.e., MOH personnel indemnities.

For Project Implementation

1. Project staff and project participants, including villagers, should be able to make mistakes without risk of having support terminated. Growth, as evidenced by this project, comes from having the time and support necessary to learn from mistakes.

2. Successful implementation depends on competent personnel as well as a sound project design. Charismatic personalities should not be mistaken for technical competence and genuine motivation to achieve project objectives.

3. The capacity of project implementation principals and staff to confront problems, analyze them and seek solutions is an indicator of project potential for success.

4. Open channels of communication and support at every level are essential to program development and sustainability.

5. Careful screening and selection of technical assistance as well as timing of technical assistance is critical to effective implementation.

6. Initial training is very important but equally important is continued in-service training at all. Of particular importance is regular contact and reinforcement of village health committees.

7. Data collection and analysis systems should be well designed and simple to use.

8. All concepts and materials introduced must be as simple as possible, locally adaptable and locally maintenable.

9. Project implementors must be sensitive to the right time to wean the project from outside inputs including materials, finances and technical assistance.

For Project Evaluation

1. Joint evaluations have great value as an educational and sensitizing experience for all.

2. The western concept of "balanced books" should not serve as a criterion for hut viability. The pricing and sale of pharmaceuticals follows strong social customs and pressures; however, villages have various means for replenishing funds to purchase essential medications.

3. Future evaluation of community participation PHC programs should include assessment of the effects of community participation on the development process. The community action, decision-making and support for PHC that is required appears to have value to other aspects of individual and community development.

Management

1. The Senegalese decentralized administrative structure is complementary to and reinforces the community participation in PHC. The structure allows for and encourages village organization and decision-making which has had a significant positive influence on the development of village based health care.

2. Decentralizing health services to the village level has enabled the GOS to meet a heretofore unmet demand for health care services.

V. PROJECT CONGRUENCE WITH AID PROGRAM POLICY

The evaluation team examined the Senegal Rural Health Services Project's consonance with AID Washington program policy. Project performance was reviewed with regard to: 1) institution strengthening, 2) technology transfer, 3) host country health policy, 4) recurrent cost implications and 5) private sector participation.

1. Institution Strengthening

A. Government of Senegal

The project has developed a transport system, training capability, an information system and a drug resupply arrangement. These programs were observed throughout the MOH at the Department, Communaute Rurale (Post) and village level.

This project has and continues to affect the capacity of the Ministry of Health (MOH) of Senegal to provide health services. In project efforts to extend services to the village level, structural and system changes have and are continuing to occur within the MOH in the Region of Sine Saloum. As a result of the project, a training capability in PHC was developed, structural changes in supervision have occurred, a management information system is being developed, and the basic support structure for supporting village financed and managed health care is now in place. The MOH as an institution, however, requires further strengthening to insure the sustainability of village based PHC.

The structural and functional changes are in place, but at the region level, the project rather than the MOH operates and manages these systems including supervision. Although institutional development has occurred the process is not complete at the management level; thereby necessitating a Phase II to complete this process.

B. Village

Village health committees have been formed, trained and are managing hut drug and medical supply depots.

The project is establishing village level councils which allow villagers to manage their own health care. The middle level MOH health worker (MLHW) are trained to train villagers and support local initiatives. The capacity of villagers to organize and manage health care has been strengthened, but the need for further reinforcement remains.

2. Technology Transfers

Extending health services required the introduction of new concepts in training, supervision, manpower utilization and service delivery. New concepts have been introduced, but not all have succeeded. The project strength has been this ability to experiment to use or to discard them as appropriate, then to seek alternate means. One example is the effort made to make the health huts viable. The effort continues to evolve at the village level.

As infrastructure for PHC delivery is in place, the project can begin Phase II introducing other expanded services such as ORT, EPI and nutrition surveillance. These targeted and specific technologies have proven potential to improve beneficiary health status.

3. Country Health Policy

Eight percent of Rural Council budgets are allocated for drug procurement for their communautes rurales.

The GOS has monitored and assessed the PHC efforts of this USAID project as well as other donors' projects. As a result of the Belgian financed Pikine project, the GOS introduced a policy change requiring the people of Senegal to assist in financing and managing their health care. User fees are now charged and locally elected health committees manage the expenditure of fees collected. The GOS is now considering a policy change to allow broader use of the eight percent to meet other health care needs.

The MOH is following closely and participating actively in the evolution of this project. The Ministry is assessing the project's potential for replication beyond the Sine Saloum region. The potential for this project to affect future MOH programs and budget decisions is considerable at this time.

4. Recurrent Cost Implications

In May 1982, the Project financed a study of the recurrent costs generated by the project.

The analysis is incomplete and will require further work. It is evident to the parties involved that the indemnities to MOH personnel pose a significant recurrent cost burden that is not only unnecessary but one that will not be assumed by the GOS. The evaluation team has recommended a gradual termination of these indemnities over the next 6 to 8 months.

Two conditions necessary for long term viability of this program are the development of a MOH regional garage and a regional based subsidiary of PHARMAPRO. The program could also benefit from a regional PHC training center. It is strongly recommended that USAID assist this program for five additional years or until it is potentially sustainable. Development of a garage, training center and pharmaceutical depot will of course result in additional recurrent costs. As these are important elements to program continuation, these costs in addition to current training and transport costs need to be assessed and the ability of the GOS to assume them established.

The team recommends that the recurrent cost implications of both the current project and the proposed Phase II project be determined prior to the time of Phase II PID design.

5. Private Sector Participation

Villagers pay for receipt of medications and remunerate the VHWs.

GOS policy of user fees for health services and local participation in financial management of user fees, fosters participation of project beneficiaries. The villagers are financing essentially village based health care services.

The current potential for private input supplies is minimal. VHWs are the only private input suppliers. The number of skilled private health manpower is limited and cannot be induced to provide services at the village level. The only recurring material input of consequence is pharmaceuticals which are limited in amount and insufficient to support local production.

Conclusion: Relevance of Project Experience to AID Program Policies

The evaluation of this project has raised several issues regarding AID policy:

1. Indemnities: Although against current USAID/Dakar policy, project designs often include the payment of financial incentives to project participants to promote and support the changes introduced by the project. The result is to motivate public sector employees to do work that is or should be a part of their normal workload with financial incentives that cannot then be sustained by government budgets. USAID/Dakar should adhere to its policy disallowing the payment of indemnities.

2. Project duration: If USAID wishes to strengthen institutions and effect policy changes, more time and continued support are required. The experience shows that even with strong government interest and commitment, change is slow. After five years, the project has brought about some institutional change, but the process is not complete. Project termination at this point would likely result in loss of the initial investment, whereas continuation would secure the investment. AID forward planning should provide continued support for projects that are progressing and show high potential after the initial five year input.

3. Project evaluations: AID policy of periodic evaluation has had a positive influence on this project. A critical assessment after year two proved the project to be in trouble, and provided direction to improve project performance. A second evaluation after an additional two years shows good progress and high potential. Again, recommendations for improvement have been made. The evaluation process has provoked scrutiny and reassessment. We feel that projects benefit and grow from this process.

SECTION TWO

VI. EVALUATION METHODOLOGY

Background and Scope of Work

Originally scheduled for November 1981, the Sine Saloum end of project evaluation occurred in July, 1982. Unfortunately, at that time some of the available mission support personnel with extensive knowledge of the project's history were either out of the area or occupied with other important assignments, and thus were not readily available for discussion. Despite this limitation, the evaluation process proceeded and the team worked with personnel available.

Purpose and Scope of Work

The purpose of the evaluation was to assess the progress made by the Project and Ministry personnel in the accomplishment of the redesign objectives specified in the Project Redesign Paper (September 1980) and Amendment No. 6 to the Project Grant Agreement (signed on Sept. 11 1981). In addition, the USAID evaluation team examined:

- The effectiveness of the working relationship between the Ministry of Health in Dakar, the Project Implementation team in Kaolack and the USAID Health Office;
- The extent of beneficiary satisfaction;
- The effectiveness of the management changes instituted since the previous evaluation;
- The training and competence of the health workers in the project;
- The financial viability of the village drug and medical resupply system; and
- The consonance of the project with GOS and AID policy.

Methodology

Contributions to the evaluation methodology were made by two teams in the following manner:

-- The Senegalese team, in May 1982, collected and analyzed the results of a population survey for use in the project evaluation. The survey was conducted at the project site and dealt with six (6) areas:

1. Village hut financial viability including drug sales and revenues;
2. Training of project staff and perceived satisfaction by beneficiaries;
3. Hut utilization rates by villagers and their understanding of project goals;
4. Villager participation in and management of village hut activities;
5. The availability of drugs for purchase; and
6. Villager acceptance and desire for available drugs.

The survey distinguished the results between villages selected for special attention and those not selected.

-- The U.S. team obtained and reviewed data for the evaluation from four sources:

1. Project documentation and related literature (listed on pages 103-5 of the Annex).
2. The development of a field questionnaire that focused team attention on the project redesign and other project output categories of: 1) a management information system (MIS), 2) supervision, 3) training, 4) facilities and maintenance, 5) hut finances, 6) project and system organizational structure, 7) the employment of preventative health measures, 8) the availability of drugs and supplies, and 9) a measure of hut utilization. The questions were grouped by subject area and asked of appropriate project, MOH, GOS, and Promotion Humaine personnel at each level of the project from regional to village level.

3. A field visit to two of the four project departments within the Sine Saloum region. One department was chosen as example of one of the older departments with project services; the other as an example of a newer project department. Within each department two health posts were chosen: one was chosen as an example of a well-functioning post and the other as a average post. In addition two villages with huts were chosen which related to each post. All posts and village huts choices were made by the respective departmental medical officers and from the "selected for special effort" group. The evaluation team implemented the field questionnnaire at these eight physical locations.
4. Finally, the team utilized the findings of the Senegalese team-conducted survey into the evaluation report.

Using the many sources of information available, the team endeavored to gain a better understanding of the GOS health system including its structure, resources, and progressive planning. Attempts were made also to get a clear understanding of existing health problems, its scope and prevalence within the given population described ass the Sine Saloum population. A composite of the information garnered from past evaluations, project descriptions and other relevant documentation, as well as the current survey then served as an assimilated baseline from which the project could be appraised in terms of its effeft, relevance, efficiency and impact on progress towards goal attainment. In order to accomplish the task of evaluating project advancement, the AID mission fielded an American team consisting of a health administrator, a health technician, a logistical specialist and a program development officer.

This team was supplemented by other resource personnel as need arose both in the field and while synthesizing information during the report writing stage.

The Senegalese team consisted of one statistician, three economists, one programmer, one training specialist and three technicians.

Limitation of the Study

The team recognized that only a small sampling of the vast number of delivery sites could be undertaken. Hence, as the evaluation represents general findings to sacrificing detail representing what the team felt to be a fair understanding of the full range of project accomplishments and sufficient justify recommendations for follow-on and redesign efforts.

VII PROJECT ORGANIZATION

BACKGROUND

The organizational chart on page 40 depicts the relationship between the Sine Saloum Project and the Ministry of health. As can be seen, the Project's direction comes from the Regional Chief Medical Officer (RMO) who has the responsibility for project implementation. Project activities are carried out by a designated "Project staff."

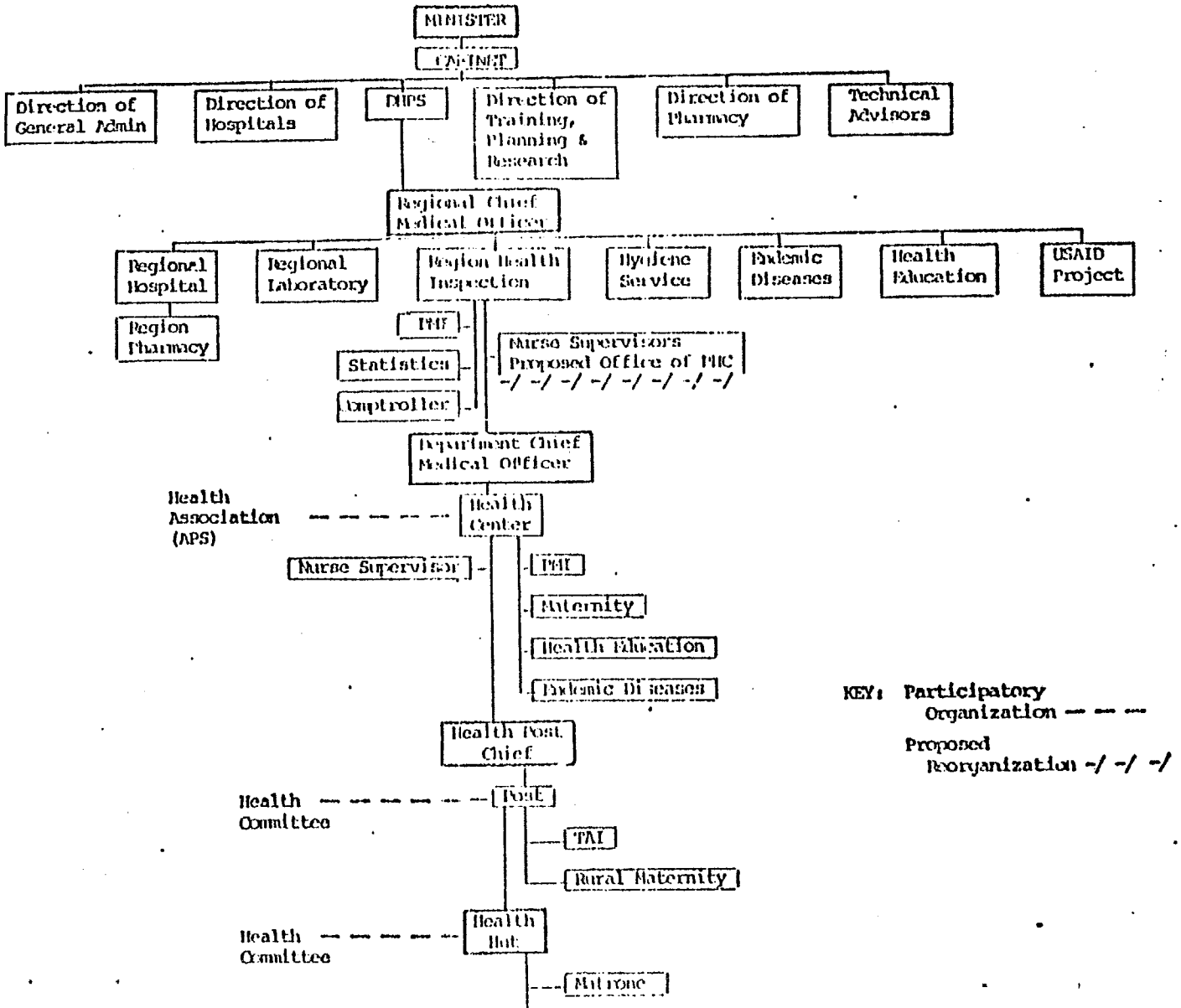
The Project touches four levels of the MOH: Regional, Departmental, Communaute Rurale, and Village.

1. Regional Level: The RMO, responsible to the governor at the Regional Level and the Ministry of Health at the National Level, supervises all health in the region as well as the hospital, department health centers and health posts. The RMO is assisted by regional supervisors who have been delegated to develop and provide formal and in-service training to health post nurses and itinerant sanitation technicians (TAI). A Regional Level Assistant Director for Promotion Humaine lends staff support to the RMO by promoting community health development activities.

2. Departmental Level: The Health Center (Circonscription medicale) is the focus for services at this level. The center is generally staffed by a Departmental Medical Officer, nurses and midwives. One nurse and midwife supervisor have been identified to coordinate and provide supervision and support to health post personnel at the level of the Communaute Rurale. A Promotion Humaine supervisor provides support to MOH post nurses and TAIs, by mobilizing villagers to organize village health committees and health huts.

TORY

MINISTRY OF HEALTH ORGANIZATIONAL STRUCTURE



Gouvenor
Regional
Council

Prefet
Departmental
Council

Sous Prefet
Rural Council

Village Chief
Marabou

CHART 1

3. Communaute Rurale Level: Health posts or "dispensaries" are located at this level. These posts are staffed by nurses and TAIs who train, supervise and otherwise support village health workers (VHWs) and village health committees.

4. Village Level: Village Health Committees and Village Health Workers (VHWs) function at this level. Village Committee members are selected by the village to administer and manage finances and support the local health program. The program usually consists of a hut where medicines are dispensed by two trained village workers (VHWs).

The VHWs are "secouristes" (someone trained in first aid) and "matrones" (trained traditional birth attendant) who together provide, through first aid, minor treatment and safe deliveries. In many areas, the "matrone" can substitute for the "secouriste" in his absence.

The "Project staff" have a myriad of responsibilities at all the above levels. They are responsible to the RMO, and at the same time act as a liaison with the MOH in Dakar. For the most part, the Project staff is responsible for the coordination of project activities with all GOS agencies involved in project implementation.

The 1980 project redesign efforts focused on only 60 health huts supported by 20 health posts at the Communaute Rurale level. Since then, these 60 huts were the principal target for training and supervisory visits though personnel in the other posts and huts eventually also benefited from additional training and supervision. In July 1982, the project had 378 health huts, 756 VHWs, 48 health post nurses and 48 TAIs.

Observations

-- The health post nurse is a key person in the implementation and maintenance of Sine Saloum approach to PHC at the village level. His/her training and motivation determines the character of health hut activities.

-- Each health hut visited by the evaluation team had a managing village health committee. Each hut was centrally located in the village and was functioning with a supply of drugs on hand. The huts appear to be an integral part of village life.

-- Although the redesigned project has focused on 60 out of 378 huts, the May 1982 GOS survey showed the non-selected huts to be functioning and almost equally as well supported by health post nurses and TAIs.

-- Project activities have been designed to respect and work within the existing MOH organizational structure extending PHC services and activities to the village level. The design provides for the necessary institutional support while preserving the autonomy of the villagers to develop, finance, manage and sustain their own basic health services and activities.

-- The GOS political and administrative policy of decentralization provides elected Rural Councils at the Communaute Rurale level with budgets from the general tax revenue. This has created a political environment at the local level in which the rural population can participate and be responsible for financing and managing their own health services. Such administrative reform promoted the development of village and Communaute Rurale health committees.

Problem 1: In principle, the project staff is responsible to the Region Chief Medical Officer. In practice, however, the RMO has other responsibilities and so has not been able to provide necessary leadership. The Department Medical Officers who are supervised by the Region Chief Medical Officer have not been properly informed or have not adequately participated in project decisions. Defacto, leadership comes primarily from the Project Coordinator, resulting in a project management structure parallel to the region level MOH structure. The MOH needs strong leadership to integrate project management with MOH region management.

Recommendations:

A. Assign a Regional Medical Officer who has experience in and is interested in PHC. Preferably the physician would have a background in planning, administration and epidemiology and would perceive the PHC program as a central component of the total regional MOH health program.

B. In order to integrate project management into the region level of the MOH, create an Office of Primary Health Care in the Bureau of Health Inspection under the direction of the Region Chief Medical Officer. The Office of PHC would be headed by a Team Leader (Chef d'Equipe de Cellule de la Sante Primaire) and include five technical staff positions: a coordinator each for training, supervision, MCH, sanitation and village pharmacy depots. Their responsibilities should be as follows:

- The Team Leader would supervise the five member staff, and coordinate the program with other MOH services such as the Region Officers for Endemic Diseases, Health Education, and Hygiene. The team leader would work with other MOH personnel to integrate the project and Ministry management information systems and, finally, to plan and coordinate a region MOH garage for vehicle and mobylette repair and maintenance.
- The Training Coordinator would be responsible for the development, organization and implementation of all PHC programs related training.
- The Nurse Coordinator for Supervision would oversee all supervision for PHC in the region and be responsible for data recording and collection and for personnel activity reports. In collaboration with the region statistician, the coordinator would assist in supervising the analysis of data appropriate to each level of the delivery system. The coordinator of supervision would also be responsible for assessing trainning needs from the information generated and for the preparation and dissemination of a tri-monthly or quarterly PHC newsletter for the region.

-- The Midwife Coordinator would be responsible for supervision and support of all region maternal and child health activities of the post level rural maternities and the matrones at the village level.
-- The Coordinator for Sanitation would supervise, support and coordinate the rural based sanitation and environmental health work of the rural sanitation agents. The sanitation coordinator should coordinate sanitation activities of the PHC program with the MOH Region Service of Hygiene.
-- The Coordinator for PHC Drug and Medical Supplies should be an expert in drug depot administration and management. The position would not warrant a highly trained pharmacist, but an honest person trained in small scale depot financing, bookkeeping and control systems. The coordinator will assist health post nurses in providing the post and village health committees support in their management of drug and medical supply depots. The coordinator would also assist PHARMAPRO (PNA) in the development and operation of a subsidiary regional depot that is responsive to the supply needs of the post and village level health units.

Problem 2: The PHC program responsibilities of the Department Chief Medical Officers and Nurse and Midwife Supervisors are unclear and not well defined.

Recommendation:

Write job descriptions for all MOH personnel in the program and disseminate them to superiors and subordinates so that all personnel have a clear idea of respective roles and functions.

Problem 3: The TAIs have, in general, had difficulty in executing their job responsibilities. They are highly trained in sanitation techniques that are more suitable to urban, mechanized environments. They feel unchallenged and frustrated with the simpler approaches to rural sanitation.

Recommendation:

Over the next three years, train and assign sanitation agents rather than the more highly skilled sanitation technicians to the post level to work with villagers in sanitation. The level of skills of the sanitation agent is more suited to the work of rural village sanitation.

Problem 4: Volunteer health committees lose interest in supporting and managing health huts without periodic external intervention.

Recommendation:

The Chief Nurse of the health post should attend rural council meetings as a non-voting member to inform its members of village health needs and for technical support.

Problem 5: The project redesign provided for technical assistance to the project including the support of a three person institutional contract. Most of the technical assistance was under-utilized and an institution was not contracted to provide the long-term assistance. Those areas now most in the need of technical assistance are the areas of drug and medical supply system, MIS, and vehicle maintenance and repair.

Recommendation:

In recognition of the current projects' staff's ability to manage project implementation, contract short-term technical assistance. Contract a qualified institution to provide periodic short-term technical assistance in the areas of PHC management information systems, training, health education, community organization, drug and medical supply systems, and vehicle maintenance and repair. The technical assistance be provided at every 4 to 6 month intervals for one to two months and by the same consultants in order to insure continuity. The institutional contract team leader be a health planner and administrator able to work closely with the Project Director and Coordinator in planning and administering the implementation of this project. With the Project Coordinator, the team leader would plan and manage the technical assistance required by the project.

VIII. MANAGEMENT INFORMATION SYSTEM

Background

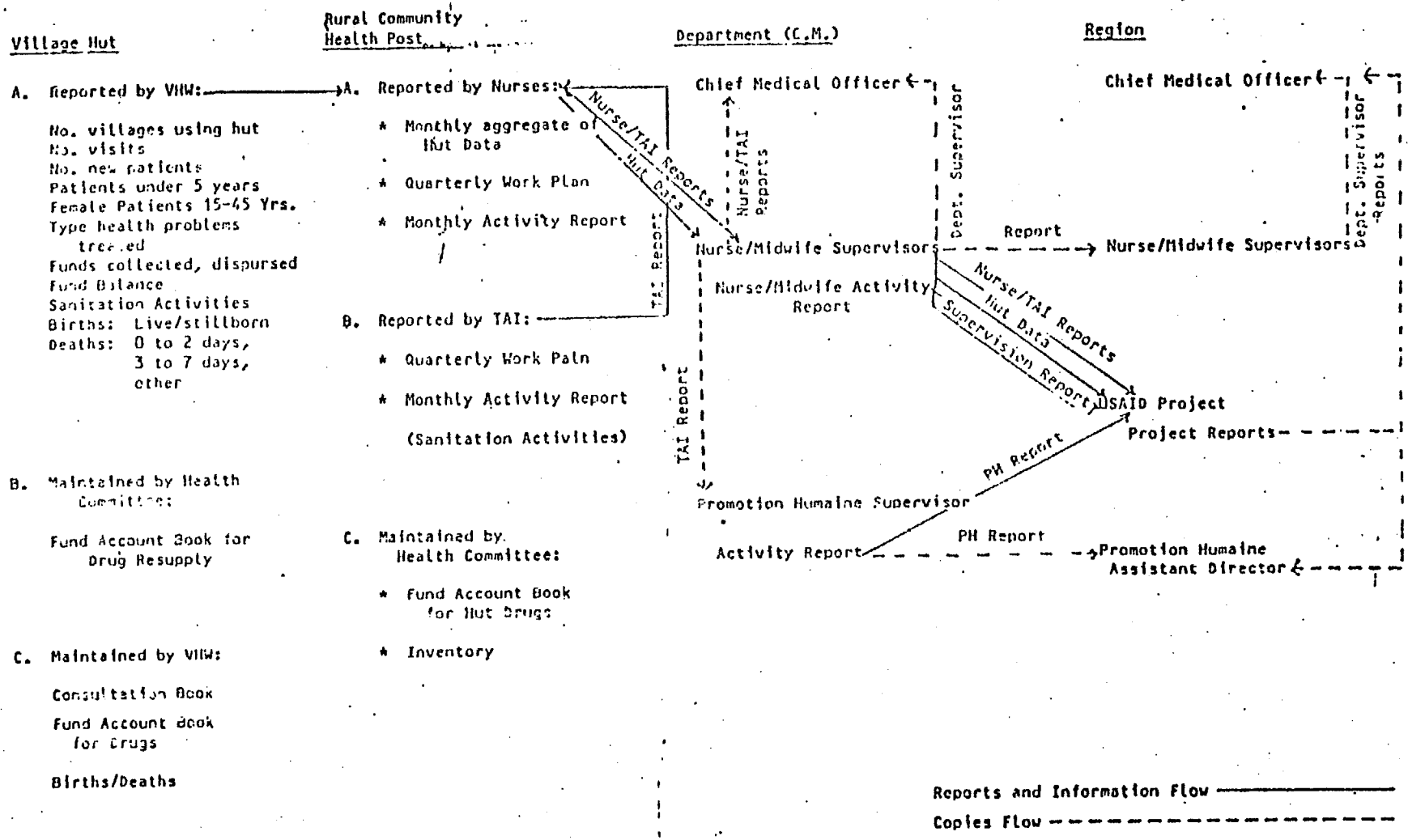
The April 1980 evaluation concluded that project support and supervision efforts were unreported, haphazard and disorganized. It was also noted that there was no means for assessing project impact because of the non-existence of base-line data. The evaluation recommended the development of a simplified record-keeping system that would provide regular information to project managers about project activity on each level. The Rural Health Services redesign paper called for a management information and health surveillance system based upon work plans for the attainment of project objectives. Included was a plan for supervision and individual responsibility, provision for evaluating personal performance, and a collection of base-line data to measure project impact.

This system of simple reports and information gathering was to be developed by technical assistance provided to the project in the form of a one year personal services contract to begin in November, 1980.

Delays in the signing of the Project Paper Amendment delayed the procurement of a technical consultant. Further disruption to the MIS development process occurred with the unforeseen abrupt termination of the consultant. At that point, only an outline of the proposed MIS system and contents of the consultant's report was accomplished.

Using the system as outlined in the unfinished report, the project staff implemented what constitutes the present Management Information System.

PROJECT MANAGEMENT INFORMATION SYSTEM (MIS)



Observations

-- VHWs record with good consistency patient visits, drugs prescribed and village birth and deaths. Many of them also maintain a daily account of drugs sold and bought.

-- Village health committee treasurers, for the most part, record daily drug sales and purchases.

-- Hut utilization data and village vital statistics are collected and reported regularly to the region level of the project.

-- Health post nurses and TAIs and department supervisors prepare quarterly plans and monthly reports which are sent to the region nurse supervisors and project staff.

-- Activity reports and data are collected, reviewed and filed by project staff.

Problem 1: The project has not yet developed a health surveillance system for monitoring and evaluating morbidity and mortality. Without such a system, the impact of the project on health status cannot be directly measured.

Recommendation:

Although a health survey will be conducted in the fall of 1982 to measure health status, the project should develop and implement an ongoing system of health surveillance.

Problem 2: Since the project reporting system is not integrated in the MOH reporting system, MOH personnel sometimes disregard project reporting schedules, as this means duplication of work.

Recommendation:

Develop a standardized comprehensive health report which provides information required by the MOH and by the project.

Problem 3: Post nurse, TAI, and nurse supervisor work plans and activity reports vary from site to site.

Recommendation:

Develop standardized work plan and activity report forms.

Problem 4: As forms which VHWs have to submit are complicated and require literacy to be filled out, information is incomplete and incorrect. The VHWs are also required to fill out a monthly report form to be given to the health post nurse. Aggregating the data is difficult and the form is complex.

Recommendation:

Simplify the forms so that they can be used by illiterates and by those who only write in Arabic and Wolof, and train health post nurses to assist the VHWs in filling out reports and preparing monthly and/or quarterly summaries.

Problem 5: There is currently no capability in the MOH or among the project staff to analyze data.

Recommendation:

The project should train at least one MOH person at the department and region level in health, statistics. In addition, health post nurses should be trained to analyze information from post and hut level records and instructed on the proper format for feedback basic to these originating sources.

Problem 6:

There is no feedback on any reporting in the Project.

Recommendation:

Publish a monthly newsletter of PHC program activities as a means of sharing ideas, problems and solutions, and to create a sense of unity. Also train region staff to identify significant information and provide reports to hut and post level to assure utility of reports to source level.

SINE SALOUM PROJECT

OVERALL EXISTING MANAGEMENT INFORMATION SYSTEM AT EACH LEVEL (7/82)

CRITERIA	HUT	POST	DEPARTMENT	REGION - USAID/Kaolack
1. PROGRESS	• VHWs recording hut utilization and vital statistics data. • System for recording drugs sale & purchase in place at the hut level.	• System of collecting hut data in place. • Post nurses and TAIs prepare and send plans and activity reports.	• Summarized hut data forwarded to region level • Nurse supervisor work project plans prepared on quarterly basis. • Preparation of monthly supervision reports.	• Hut data received, reviewed, and action taken if necessary. • As needed, exchange of information with MOH and Promotion Humaine.
2. RELEVANCE	• Information reported useful for identifying local health problems. • Information is an indicator of VHW acceptance and productivity. • Drug depot information facilitates accountability for funds & supplies.	• Hut data provides a basis for the development of work plans by health post nurses and TAIs.	• Hut and Post data useful for developing supervisor work plans.	• Information reported very useful for trend analysis and project monitoring. • Information useful for problem identification.
3. QUALITY	• Daily record of consultations generally well maintained. • At times incomplete & inaccurate reporting. • Not designed for use in Arabic, Wolof or by illeterates. • Uneven bookkeeping of drug sales & purchases.	• Work plans do not necessarily reflect project information needs. • Reports do not always follow a prescribed outline. • Reports do not reflect analysis or interpretation from the huts.	• Reports do not always follow a prescribed outline. • Reports do not reflect analysis of post level reports.	• No interpretation or analysis of data. • Information system does not contain management information. • No health surveillance data. • Hut utilization data good.
4. EFFECTIVENESS	• Little or no feedback from post level regarding hut data collected. • Bookkeeping on drug sales & purchases provides some accountability of funds.	• No feedback given to VHWs on information reported. • Limited due to no interpretation of hut data to identify health problems.	• Limited because hut & post information & data forwarded without analysis. • No feedback given to post nurses and TAIs. • Post reports used to detect problems.	• No feedback given on information and data collected. • Limited due to lack of an analytical capability. • NOTE: MOH Regional Level: Not used at this level. Has no management responsibilities.
5. EFFICIENCY	• Reporting format complex. • At times, irregular reporting.	• Work plans and activity reports are forwarded regularly & generally in timely manner. • Hut data compiled regularly & forwarded	• Monthly reporting irregular.	• Dual MOH and project reporting systems limit usefulness of data and activity reports and permit duplication of effort.

IX. TRAINING

BACKGROUND

The training component of this project is well developed. Chart 4 shows the types and numbers of persons trained, and type and length of training conducted since October, 1980. Training has been extended to all staff levels and is characterized by the strong participation and interest of the trainees.

The villages were not able to financially support 3 VHWs; thus most participating villages with a health hut now have 2 VHWs. Generally, the first aid and hygienist positions have been combined to a single position trained in both areas. The second position continues to be the matrone.

The 1980 evaluation also recommended cross-training of the two VHWs so that they can cross-cover for one another. There are now approximately 48 health posts and 378 health huts in the program. The project has therefore trained 48 health post nurses, 44 TAIs and 378 first aid/hygiene agents and 378 birth attendants in the program or a total of 756 WHWs.

The PHC program provides the Dakar CESSI (Centre d'Enseignement Superieur en Soins Infirmiers) field placement for advanced nursing students in PHC. CESSI students are the future nursing administrators and teachers of Senegal and other francophone African countries. They spend seven weeks in Sine Saloum working with health post nurses. Both the CESSI students and the post nurses benefit from the exchange.

SENEGAL RURAL HEALTH SERVICES PROJECT TRAINING

FALL OF 1980 to JULY 1982

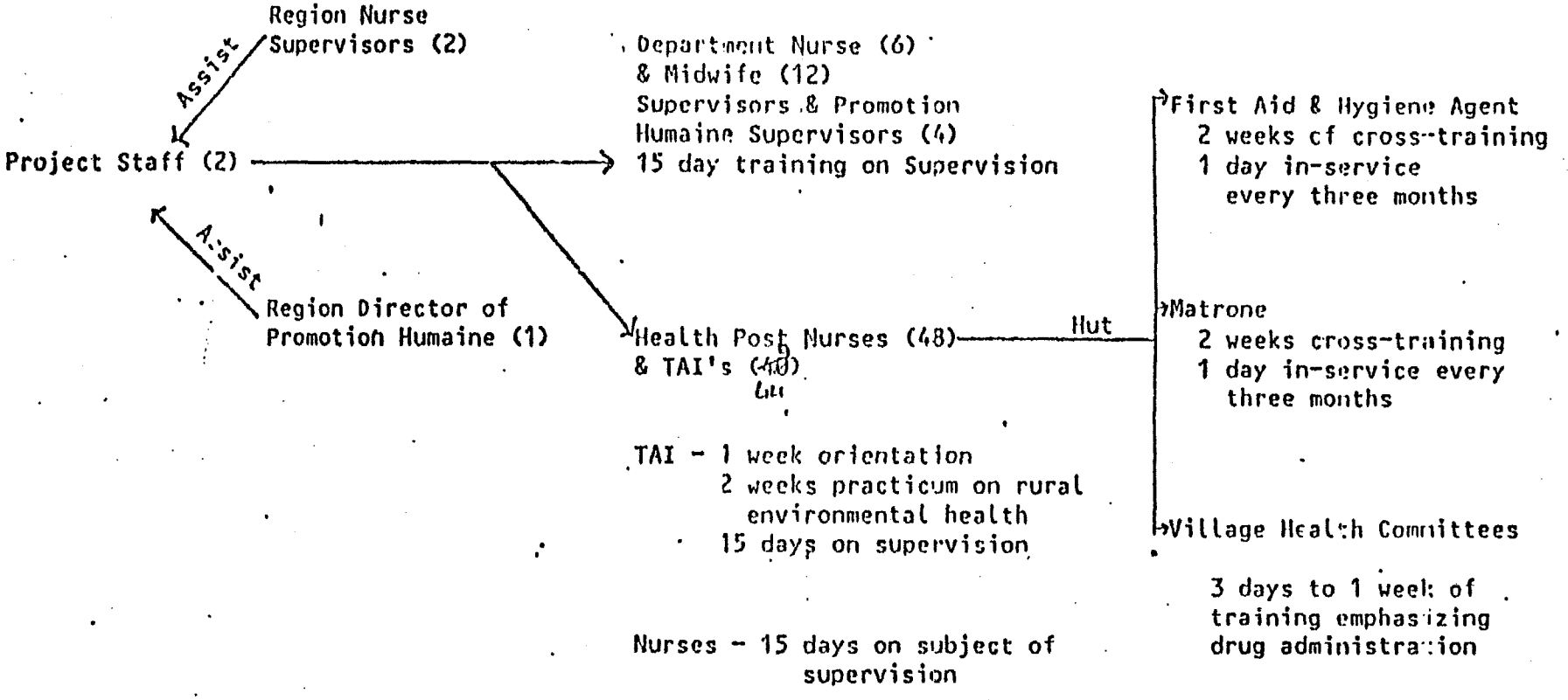


CHART 4

Observations from Senegalese Survey:

-- Each village hut (378) has a trained matrone and first aid ~~and~~ hygiene agent.

-- Eighty-seven percent of the VHWs interviewed in the survey had received cross-training.

-- On the survey knowledge test of 18 questions, 78% of the matrones scored over 80% of the questions correct and 83% of the first aid/hygiene agents scored over 80% correct.

-- On the survey knowledge test for only the matrones, only 67% missed one or less of the seven questions addressed to them; however, 59% answered all the questions correctly.

-- Forty-four TAIs have graduated from the Khombole School and are assigned to health posts in the project area.

-- Every TAI has been given an additional month of training in practical rural sanitation, PHC, supervision and community organization.

-- Approximately twenty-two MOH and Promotion Humaine personnel have been trained in supervision, pedagogy and community organization.

-- All forty-four TAIs and forty-eight health post nurses have been trained as trainers.

-- In the survey, over 90% of the health post nurses and 81% of the TAIs had trained village health committees.

-- The survey showed that 53% of health post nurse visits and 75% of TAI visits to VHWs involved some form of teaching.

-- In the survey, 91% of VHWs said that they were satisfied with their training, that they found the subjects interesting and that they thought their teachers, the health post nurses, were devoted.

The above results successfully meet most of the objectives of project paper amendment outputs and evaluation criteria related to training. Three objectives were not achieved: (1) the Senegalese project coordinator did not receive training in project management; (2) regular periodic training was not confirmed for the village health committees; and (3) fifty MCH and Promotion Humaine personnel were not trained as required. Approximately twenty-two were trained. The evaluation team, however, felt that the training effort undertaken by the project staff was quite satisfactory. The staff is to be commended for obvious results of their efforts.

The following problems indicate that some issues remain. Recommendations offered to facilitate future plans for training component of the PHC program follow.

Problem 1: The systems for training PHC personnel is functioning. It is not yet "institutionalized" at the regional ministerial level. Regional Ministry of Health nursing supervisors are being included in the training activities, but at present these supervisors do not coordinate nor direct the training program.

Recommendation:

Assuming the creation of an Office of PHC in the Bureau of Health Inspection in the region MCH, a position for a PHC training coordinator should be established. Working under the supervision of the Chef d'Equipe of the PHC Office, the training coordinator will be responsible for identifying training needs and organizing and implementing the training and in-service training of PHC personnel at all levels of the delivery system within the region.

Problem 2: The training of VHWs, nurses, TAIs and department nurse supervisors has been a formidable task and has been generally well executed. The following problems with the training program were noted:

-- New personnel assigned into the program have not been sufficiently well oriented and trained;

-- Village health committes are lacking in health information, and are unskilled in community organization;

-- Matrones are not providing prenatal care and childhood nutrition surveillance;

-- Post nurses frequently are weak in teaching skills;

-- Departmental supervisors are not skilled supervisors of the health posts; and finally

-- TAIs lack planning organizational skills essential to village health activities.

Recommendations:

A. Training should be institutionalized within the MOH to assure continuity of revised curricula.

B. USAID in cooperation with the MOH should provide for a facility in Kaolack to serve as a national center for PHC personnel training.

C. Phase II should include training components to address the:
1) Pharmaceutical and medical supply system management at level of departmental surpervisors, nursing staff and village committees.
2) Supervisory skills at all program levels.
3) Concepts and practice of community organization developed particularly at the post and village level.

Problem 3: While the existing training program is quite comprehensive, It is lacking in some areas. For example, some Chief Medical Officers at the region and department level need increased understanding of PHC concepts, medical and drug supply management, community organization, manpower planning, and concepts of supervision.

Recommendations:

A. USAID/Dakar conduct a three day workshop for the medical officers and supervisors with the assistance of technical advisors from the MOH in Dakar, the U.S. and, perhaps, WHO.

B. Provide PHC personnel at all levels training in organization and use of the management information system (MIS). At the region and department levels, train at least one person in data analysis relevant to the data collected at their respective levels of the MOH.

C. Now that the structure for PHC service delivery is in place at the village level, train appropriate personnel at department, post and village levels to incorporate preventative health services into their program. Such preventative measures include immunization, oral rehydratation and nutrition surveillance.

D. To facilitate project fusion with the MOH at the region level and future PHC program expansion, the project coordinator should receive training in financial and personnel management, planning and data analysis.

Problem 4: Village health workers trained by the project received a per diem during project training. The per diems in the aggregate are costly to the MOH.

Recommendation:

To encourage long term village support of VHWs, USAID terminate payment of VHW per diem costs for tri-monthly one-day in-service training. This cost should be transferred to the VHWs village. In addition, USAID should begin to make arrangements with MOH to withdraw from paying VHW pre-service training costs.

CRITERIA	MATRONS (Hut)	FIRST AID & HYGIENE AGENT (Hut)	HEALTH & ADMIN. COMMITTEES (Village)	NURSE (Post)	... (Post)	SUPERVISORS (Dept.)	
1. PROGRESS	• Most cross-trained (2 weeks) (about 335 out of 378 survey). • Receive in-service 1 day every 3 months.	• Most cross-trained (2 weeks) (about 335 out of 378 survey). • Receive in-service 1 day every 3 months (minimum).	• Receive short training in management of of drug & medical supplies.	• 100% received TOT and training in supervision (40).	• 100% received TOT. • 100% trained in applied rural sanitation. • 100% received training in supervision (AZ).	• Received training in supervision.	• Coordinator received 1 month training in U.S. in community health & evaluation. • Training coordinator 1 month in U.S. and Canada in Community Development, Pedagogy & Nutrition.
2. RELEVANCE	• Essential	• Essential	• Important	• Essential	• Essential	• Helpful	• Helpful
3. QUALITY	• On survey knowledge tests 78% got over 80% correct on general PHC questions; however, only 67% correct on the MCH related questions (59% got 100% correct). • Need review of techniques.	• On survey knowledge tests 83% got over 80% correct. • Need review of correct drug dosage.	• Management of drug supplies sporadic and weak. • No concept of how to identify health problems and act to correct them.	• Knowledge & use of teaching technique weak; however, CHAs did well on survey knowledge test. • Insufficient training of village health committees. • In-service not meeting needs of matrones. • Doing in-service during post visits.	• Insufficient training and retraining of village health committees. • Little evidence of first aid & hygiene agents doing environmental health and health education in their respective villages.	• 75% of posts surveyed were visited once per month by Dept. Supervisors. • Understanding of concepts of supervision uneven and role unclear.	• Unknown N/A.
4. EFFECTIVENESS	• 86% of the matrones report handling the majority of births in their villages. • However, fewer women consult them for pre-natal care.	• The number of visits to a hut per month ranges from 15 to 600. Average visits per month is about 100 to 150 but varies with the season. • Strong evidence that post utilization down by 1/3 to 1/2 while hut utilization is increasing.	• Committees exist and most aware of hut finances. • Not actively involved in village health activities.	• Visit huts regularly. • Understand and are fulfilling their support responsibilities.	• Visit villages regularly and doing a lot of environmental health education; however, improved sanitation conditions minimal.	• Unknown not evident.	• Generally good. Have reached the villages and CHAs. • Weak training on management skills & analytical skills at each level.
5. EFFICIENCY	• More births attended by skilled traditional midwives. • Cost of home births substituting for rural maternity care is less.	• More of the demand for health care is being met (total utilization) at lower costs. • Cost of hut care substituting for post care is less.	• Committee oversight of hut finances improves hut viability.	• Decreased post utilization has permitted time for in-service education, data collection and hut support and supervision.	• Not known. Not evident.	• Have not participated in training others.	• Training not available on regular basis at all levels. • Capability to train not institutionalized in MOH region level.
	N/A	N/A	N/A	N/A	N/A	N/A	N/A

CHART 5

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X. SUPERVISION

Background

The addition of semi autonomous village health care has had two effects on the Ministry or Health of Senegal. First, additional supervisory support from the MOH was required, and, secondly, the nature of such support had to be defined. The existing supervisory structure within the MOH was not adequate for supervising village health activities. The structure for supervision has evolved and been adjusted since the beginning of the project as changes were required. Chart 6 illustrates the project and current MOH supervisory structures.

A major contribution of the project was to introduce and encourage the use of nursing personnel at higher levels in the MOH to supervise and support nursing personnel in the field. This concept is in conflict with the European system in which only physicians supervise nursing staff. The level of expertise and frequency of contact required made the use of physicians inefficient, particularly at the Post and Hut levels.

The Chief Medical Officer, as Chart 6 indicates, is the principal project supervisor of all programs from region to village. In practice, direct supervision only extends to an immediate cadre of personnel at the regional level and to the Chief Medical Officers at the Department level. The regional Nursing Supervisor has actual supervisory responsibilities for project activities extending to the communaute rurale where one finds the health post. The health post is in turn directed by a nurse who, in addition to his/her clinical duties, is responsible for coordination of TAI activities and for direct supervision of the first aid and hygiene agent and matrone at the village hut level.

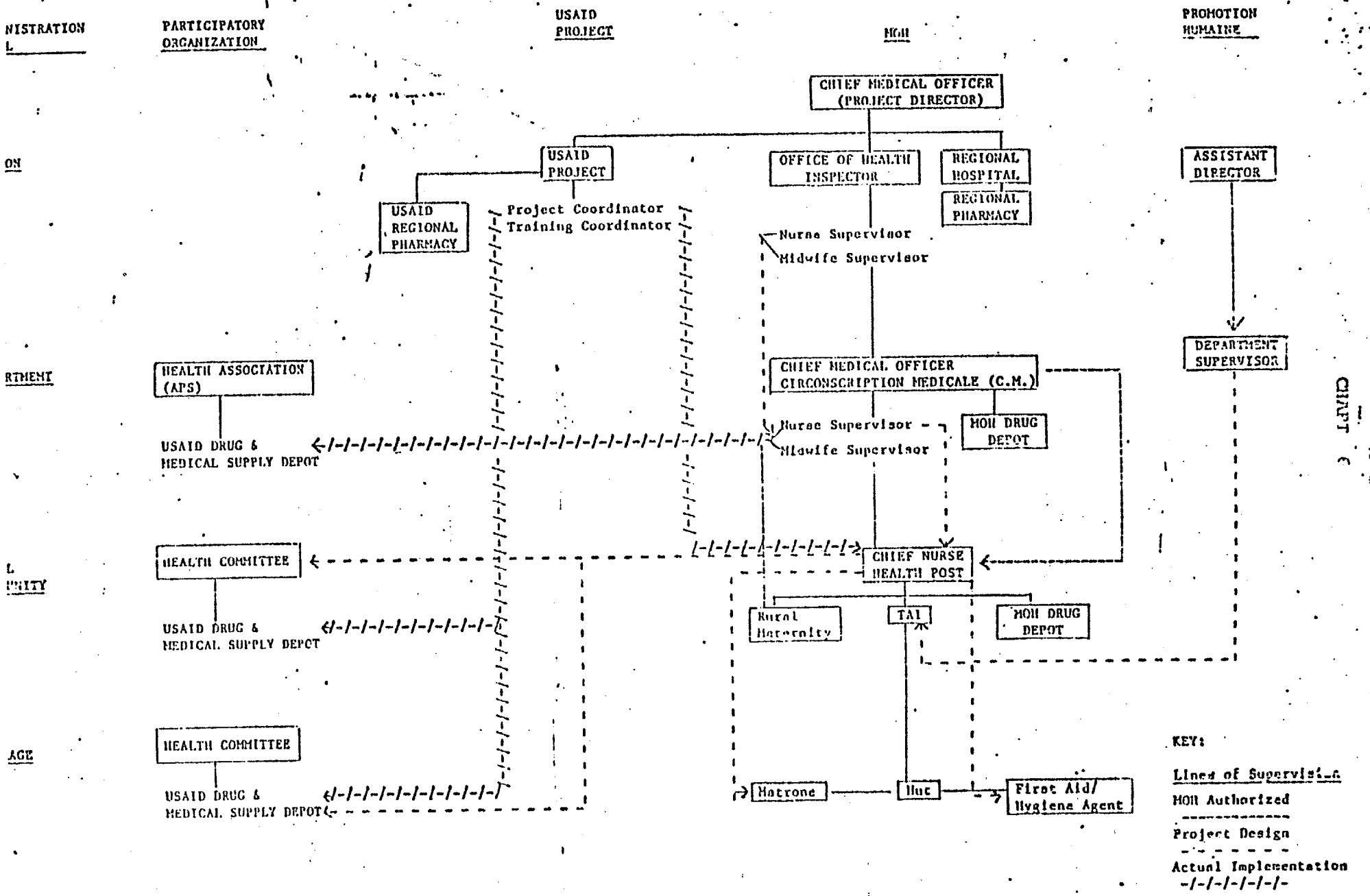
PARTICIPATORY ORGANIZATION
USAID PROJECT
MOH
PROMOTION HUMAINE
CHIEF MEDICAL OFFICER (PROJECT DIRECTOR)
USAID PROJECT
OFFICE OF HEALTH INSPECTOR
REGIONAL HOSPITAL
REGIONAL PHARMACY
ASSISTANT DIRECTOR
USAID REGIONAL PHARMACY
Project Coordinator
Training Coordinator
Nurse Supervisor
Midwife Supervisor
DEPARTMENT SUPERVISOR
HEALTH ASSOCIATION (APS)
CHIEF MEDICAL OFFICER CIRCONSCRIPTION MEDICALE (C.M.)
Nurse Supervisor
Midwife Supervisor
MOH DRUG DEPOT
USAID DRUG & MEDICAL SUPPLY DEPOT
HEALTH COMMITTEE
CHIEF NURSE HEALTH POST
Rural Maternity
TAI
MOH DRUG DEPOT
USAID DRUG & MEDICAL SUPPLY DEPOT
HEALTH COMMITTEE
USAID DRUG & MEDICAL SUPPLY DEPOT
Matrone
Hut
First Aid/ Hygiene Agent
KEY:
Lines of Supervision
MOH Authorized
Project Design
Actual Implementation

CHART 3

The Promotion Humaine Department supervisor shares responsibility with the Health Post nurse for supervising the TAIs assigned to the health post.

Nursing and Promotion Humaine supervisors at the regional and departmental levels have 8 project vehicles to assure mobility for supervisory visits. Post nurses and TAIs have received 78 mobylettes for supervisory visit mobility.

Observations

-- An appropriate and workable system of supervision of regional PHC activities has been established.

-- The frequency of supervisory visits and beneficiary satisfaction with hut level health care implies that MOH supervisory support for village health hut activities is a strong link in the service delivery chain.

-- VHWs surveyed said that 90% of the post nurses made health visits at least monthly. Over 95% of the TAIs reported visiting the huts at least monthly.

-- The VHWs reported that 53% of the post nurses supervisory and support visits were used to reinforce knowledge and to teach. The remainder of the visits were used for administrative support such as drug supply, verifying data and inspecting the hut. The TAIs were reported by the VHWs to have spent 25% of their visits on administrative matters and 75% on in-service training.

-- The VHW reported that the post nurse met at least monthly with the village health committee and themselves.

-- The survey also indicated that 75% of the departmental nurse supervisors were visiting the post nurse a minimum of once a month.

-- Although the Promotion Humaine departmental supervisors have other responsibilities, 55% of the posts reported once-a-month visits by the departmental supervisors.

— Over 90% of the Post Nurses attend monthly meetings with the Departmental Medical Officer and Nurse Supervisors to discuss problems and future activities. Post Nurses interviewed by the evaluation team all emphasized the value of these meetings and the resulting improvement support.

— Nearly 100% of men and women (383) surveyed in the villages with health huts said that they were satisfied with the health care received from the VHW at the hut. This is also the result of drug availability and training.

— The Regional Nurse Supervisors are graduates of CESSI (post nurse training) and are appropriately qualified for their positions as Regional Nurse Supervisors.

— Vehicles for Nurse Supervisors and mobylettes for Post Nurses and TAIs have facilitated supervisory visits. Ninety-five percent of the Post Nurses and 74% of the TAIs had functioning mobylettes six months after receiving them.

The project has met the Project Paper Amendment outputs and evaluation criteria related to supervision. A transport system is in place, regular meetings are held between the health post nurse, TAI, VHW, and village health committee, the post nurse and TAI make regular visits to the hut VHWs and, finally, the health post nurse attends monthly departmental meetings. Although project criteria have been met, the system for supervising and supporting hut level health activities has yet to be fully developed. Future program development requires resolution of the following problems:

Problem 1: Chart 6 shows the MOH supervisory hierarchy for post and village hut PHC. The project has developed a separate parallel system of supervision. At the regional level, the MOH supervisors play a minimal supervisory role and are superceded by the project staff. Decisions tend to be made by the project staff without the MOH consultation and information is not transmitted laterally between project staff and regional supervisors. The regional Chief Medical Officer has asked the two regional Nurse Supervisors to concentrate their efforts on the two remaining regional departments where the project is not functioning: Kaffrine and Fatik Departments.

Recommendation:

As in the recommendation in the organizational section to fuse project staff and regional supervisor , it becomes important to redefine roles and responsibilities in writing with the following changes being emphasized:

1. Regional nurse to be responsible for program supervision.
2. A full-time regional midwife supervisor to be responsible for: department midwife supervisors, post and ancillary midwives, and hut level matrones.

Problem 2: Some of the departmental level nurse supervisors do not carry out routine supervisoral tasks on a regular basis. Consequently, post visits are often made irregularly and occur only in response to a problem identified by the post nurse. These supervisors were often not recognized as supervisors by their post nurse colleagues who had the same training and often more years of experience. Supervisory responsibilities were limited to project activities only. In one case, a project worker reported having three supervisors: his medical officer, the region nurse supervisor and the project training coordinator. In addition, some supervisors have other responsibilities at the Circonscription Medicale that do not give sufficient time for supervisory activities.

Recommendation:

All department nurse and midwife supervisors should be appointed full-time supervisors and be given additional short-term training in supervision such as that provided by WHO Regional Training Center in Lome, Togo. This training should be followed by periodic in-service training. The department nurse supervisor should periodically accompany the health post nurses on supervisory visits to the huts. Supervisory responsibilities should be expanded to cover all MOH nursing related PHC activities.

Problem 3: Promotion Humaine is working in a coordinating capacity with the MOH to assist in sensitizing villagers and mobilizing them to take responsibility for their own health needs. At the department level, the PH supervisor has been designated as the supervisor of the health post TAIs. The TAI, therefore, has two supervisors: the PH supervisor and the health post nurse. The PH supervisor oversees the work of the TAI and works with the village health committees. Neither the health post nurse nor the PH supervisor have the technical competence to supervise the environmental health work of the TAI.

Recommendation:

The PH department supervisors should be encouraged to coordinate and support the health post sanitation agents rather than supervise them. Four of the most competent TAIs should be promoted to the department level to join the team of nurse supervisors and be responsible for supervision of the post level sanitation agents, assuming the TAIs are eventually replaced by less skilled sanitation agents.

Problem 4: The health post nurses do not give sufficient support and supervision to the trained village matrones (traditional midwives). The matrones were observed to be out of supplies, incorrectly performing urine analysis tests, and do not receive regular supervisory visits.

Recommendation:

Auxiliary midwives and post nurses give in-service training and supervision on prenatal care, aseptic deliveries and infant nutritional surveillance.

Problem 5: Project indemnities now being used as an incentive to make the visits comprise approximately 40% of the project annual budget allocated for supervision (this figure does not include the indemnities paid to project staff in Kaolack). Indemnities are now being paid to project staff, region and department nurse supervisors and their chauffeurs, and to health post nurses and TAIs to make supervisory visits. None of the visits require overnight stays. The MOH is unable and unwilling to assume this recurrent cost. The evaluation team feels that supervision responsibilities are a part of the position description and that indemnities create a non sustainable motivation for fulfilling job responsibilities.

Recommendation:

Phase out all indemnities within six to eight months. The GOS and USAID should organize a series of meetings with the MOH personnel at each supervisory level to explain the decision and discuss the role and concepts of supervision in a PHC program, and try to find other means of motivation.

Problem 6:

The project supervises and finances all vehicle maintenance and repairs. No regional MOH garage exists. Project chauffeurs drive the vehicles improperly contributing to their exorbitant repair costs. There is no vehicle preventive maintenance program. Health post nurses and TAIs are expected to finance their mobylette repairs up to the sum of 6,000 CFA ($17.00) at which time the project will consider paying repair costs on a case by case basis.

Recommendations:

A. Build and equip a MOH regional garage and train mechanics and chauffeurs. Project/MOH chauffeurs as well as region and department nurse supervisors should be trained in driving and preventive maintenance.

B. USAID should help finance a feasibility study to determine if the current MOH budget credits for vehicle repair can meet the recurrent costs of a regional MOH garage. If not, how the MOH can finance additional costs for such a garage.

C. The success of the program is contingent upon the availability and use of mobylettes by the health post nurses. The recurrent costs associated with mobylette gas, maintenance and repair should not, however, be assumed by the USAID project.

SUPERVISION

WHO EVALUATION CRITERIA

CRITERIA	HUT (village)	POST (Rural Community)	C.M. (Department)	MOH	USAID KAOLACK (Region)
PROGRESS	• 90% Post Nurses & TAIs visit huts minimum 1/month.	• 75% Dept. Nurse Supervisors visit post 1/month. • All post nurses & TAIs have mobylettes. • 55% post visited by PH 1/month	• 90% Post Nurses attend monthly meeting with Dept. Medical Officer.	• No progress in project area; supervising in none project area.	• Use monthly reports from huts, posts & Depts. to assess progress. • Attend monthly Dept. meetings for Post Nurses.
RELEVANCE	• Visits from post personnel essential. • 1 visit/month sufficient.	• Mobylettes essential. • Dept. Nurse visits important. • PH visits helpful.	• Meeting very useful.	• Relevant only to future program expansion.	• Reports and meetings important to supervision; however, should be done by Reg Nurse Supervisors.
QUALITY	• Nurse visits to reinforce training, supervise financial accounting & data collection & work with committees needs strengthening. • TAI work with committees and population less that optimal.	• Dept. Nurse visits need more definition content & authority. • PH TAI Supervision inappropriate -- coordination needs strengthening. • Insufficient Post Nurse support to Drug Depot Admin. Committee. • Transport vary, appropriate.	• Insufficient Medical Officer & Nurse Supervisor support to Drug Depot Admin. Committee. • Impression that monthly nurse meetings useful.	• Minimal (some coordination taking place).	• Quality of reports irregular. • No analysis performed with report data. • Level of supervision at all levels generally good.
EFFECTIVENESS	• Huts operating and most are viable. • All huts reached through supervision.	• Transport in place; supervision occuring. • Population has attained a minimal level of "sensitization.	• Every Post receiving some level of supervision from Dept. Nurse Supervisor & Medical Officer.	• Minimal.	• Structure of supervision in place and functioning.
EFFICIENCY	• Rate of supervision visits very good. • Time spent appropriate to task and to other responsibilies.	• Use of mobylettes efficient except use by TAIs who have higher repair rate. • Dept. Nurse visits efficient use of nurse time. • Efficiency of PH visits unknown.	• Monthly meetings and support to Drug Depot Committee efficient use of time. • Dept. Nurse supervisors should spend more time.	• Insufficient time spent on supervision in 4 depts. of project.	• Inefficient use of time --large part of responsibility should be shifted to regional supervisors. • Reporting irregular.

CHART 7

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XI. PREVENTIVE HEALTH MEASURES

Background

Since restructuring the program approach in October 1980, project staff have concentrated on: strengthening supervisory and support mechanisms, regular delivery of medical and pharmaceutical supplies, and the development of a management information and health surveillance data system. A considerable amount of training and supervision was carried out to develop the above-mentioned components of the PHC delivery system at the post and village level. A portion of that training, particularly the TAI training, included health education and environmental health activities. As the delivery system is designed, the health post nurse is designated to train the matrones in hygiene, prenatal care, child nutrition surveillance, health education and infant feeding. The first aid/hygiene agent is trained by the post nurse in malaria prophylaxis, child nutrition, health education, immunization concepts and hygiene. (These, however, are only the health preventive, and promotive aspects of the VHW training). The TAI trains the first aid/hygiene agent in aspects of rural sanitation. Both the health post nurse and the TAI are expected to educate the village health committees about activities that promote village health.

Observations

- In the Senegalese survey, TAIs reported having introduced four types of sanitation activities (out of 8 listed) in the villages in which they work. The four most frequently mentioned activities were mud ovens (NOTE: ovens prevent burn accidents and reduce fuel needs), well protection, water filtering and community action.

-- Several of the TAIs interviewed by the evaluation team appeared to have had some successes in sanitation in the villages.

-- Through in-service training, the health post nurses launched an anti-malaria campaign by teaching the VHW to regularly dispense chloroquine during the rainy season to children under five and pregnant lactating women.

In summary, although efforts were made to strengthen the TAI work in rural sanitation, the concentration of the project this last one and one half years has been in strengthening other essential elements of the village level PHC program. While the project has focused on both curative and preventive health, the focus on supervision, transport, training, and the MIS nas detracted from emphasis on preventive and promotive health efforts. Although protocols for preventive health measures have been developed as recommended by the Project Paper Amendment, they have not been incorporated into the program. Clearly, the TAIs and VHWs have introduced sanitation and preventive health measures at the village level. The sustainability of these preventive health activities, however, is not clear or evident.

The evaluation team feels that the time spent on getting the PHC delivery structure in place was a necessary element of program implementation and that the program is only now ready to place more effort on specific preventive health measures such as immunizations, childhood nutritional surveillance and infant feeding.

Problem 1: TAIs overemphasize teaching how to build mud ovens rather than teaching water protection from animals, water filtering, latrines and garbage disposal, which can reduce transmissible diseases.

Recommendation:

In-service training should stress the importance of sanitation activities that will affect transmissible diseases.

Problem 2: Although preventive health activities are included in project activities, there is a need to strengthen the preventive and promotive health focus of the program. Health education is weak at every level. Matrones are not doing prenatal care and child nutrition surveillance. ORT techniques are sporadically or infrequently used. There is currently an unmet demand by the VHWs and the population for an immunization program.

Recommendations:

A. MOH and USAID should conduct a three day workshop for TAIs and VHWs on health education.

B. Study the feasibility of home preparation of the ORT mixture. Retrain village matrones and train rural maternity auxiliary midwives in prenatal care, child nutrition surveillance and infant feeding (as recommended in training section).

C. Provide the region medical officer in charge of the Office of Endemic Diseases, the technical assistance of a CDC epidemiologist and operation's officer in the Phase II of this project in developing an expanded program of immunization (EPI), using:

- a fixed center approach from the post to village level;
- the Region Office of Endemic Diseases to train and the regional nurses as EPI trainers, and cold chain supervisors and post nurses as vaccinators, and the VHWs to assist in organizing villagers vaccination sessions;
- the health surveillance data systems and vaccine records be integrated into the existing MOH information system.

The EPI program should be developed and managed by the region Office of Endemic Diseases; however, the program should be coordinated with the village based PHC program.

XII. PHARMACEUTICALS AND SUPPLIES

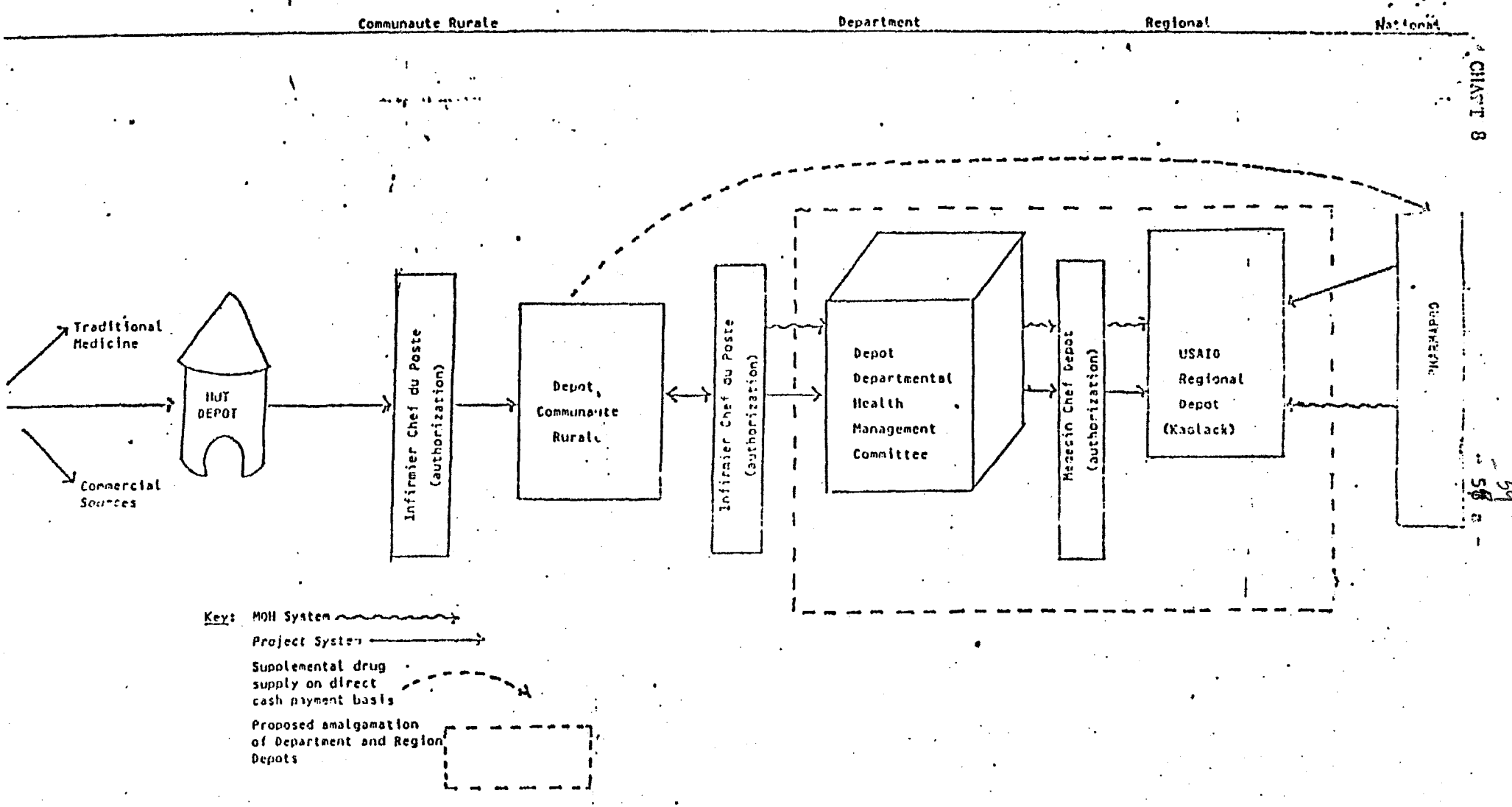
Background

In most rural health programs in both developed and developing countries, the availability of pharmaceuticals and supplies, but especially pharmaceuticals, becomes the corner stone of beneficiary acceptability. When pharmaceuticals have been blocked from reaching their destination, programs suffer great attendance losses and eventually close.

It has been obvious to the evaluation team during its field visits that the Sine Saloum Project, aware of this phenomenon, has tried to streamline the pharmaceutical supply system . Several huts that had been closed have reopened since the previous evaluation.

The present system uses a series of depots where medicines can be purchased (see Chart). The depots are controlled and managed by committees at the village, communaute rurale and department levels, and a symbiotic relationship prevails throughout the system. If a depot fails to respond to the need of a health unit it resupplies, the flow of medicines is disrupted necessitating a substitute measure. These substitutions often result in a more costly resupply which upsets the delicate balance between the distribution and restocking of medicines. To meet the major supply needs of Senegal, the GOS has developed an organization under the Ministry of Health called PHARMAPRO. PHARMAPRO is responsible for the procurement and distribution of "low cost drugs to official programs". Drugs move from PHARMAPRO to the Region Depot to the Department Depot, to the Communaute Rurale and then to the village. At each level, responsible health personnel act as agents for drug purchases. The health committees assume the finance and accounting responsibilities for purchases at all levels.

CHART 8


Communaute Rurale
Department
Regional
National
Traditional Medicine
Commercial Sources
HUT DEPOT
Infirmier Chef du Poste (authorization)
Depot, Communaute Rurale
Infirmier Chef du Poste (authorization)
Depot Departmental Health Management Committee
Magasin Chef Depot (authorization)
USAID Regional Depot (Kaolack)
Key: MOH System
Project System
Supplemental drug supply on direct cash payment basis
Proposed amalgamation of Department and Region Depots

-- In general, health huts adequately stored inventories and managed sales well.

Problem 1: The region level cannot manage a large scale pharmaceutical distribution system which would be required in an expanded program.

Recommendation:

In support of the World Bank initiatives to strengthen the pharmaceutical systems in Senegal, USAID should assist the MOH and GOS to develop a regional based subsidiary of PHARMAPRO in Kaolack.

Problem 2: The depot at the departmental level does not significantly improve the turnaround time for filling drug orders. It is an unnecessary intermediary between the village and regional levels.

Recommendation:

Regional depot and departmental depot should combine at the regional level to improve distribution to villages.

Problem 3: Drug procurement is not well organized and hence susceptible to disruptions as increasing demands are made on the health program.

Recommendation:

Assistance should be given GOS to make better use of drug utilization data to analyze long range requirements.

Problem 4: The team was unable to find a standardized accounting system for drug procurement, inventory or distribution. There were a few posts where the bookkeeping was complete and accurate. None of these systems were designed to be used by illiterate village members or health workers.

Recommendations:

A. More in-service training and better use of supervisory visits. Drug management training/retraining be offered nurses so as to enable them to function at each level of drug operation and usage. Nurses also be trained to supervise and support health committee bookkeeping systems on a regular basis at the communaute rurale and village levels.

B. Develop a unified record-keeping system that is simple and capable of use by illiterate village members or health workers.

Problem 5: In spite of progress, there are some huts which are unable to restock pharmaceuticals and medical supplies without soliciting donations from the community. Often, medicines are given away because of social pressures or are wasted because of spoilage.

Recommendation:

Special study group should be formed to help health management committees review drug distribution problems and to develop alternative reimbursement methods.

Problem 6: In several huts, medicines had become useless by either expiration, inappropriate storage or lack of use, i.e., oral rehydratation powder.

Recommendation:

The initial stock should be reduced to a minimum until a seasonal determination can be made of the rate of usage by the type of health problem. The minimum would be based on numbers of heads of family rather than total population. There should be no accumulative drug value over 30,000 CFA during the initial trials until a utilization rate is determined and management capability is in place.

Problem 7: In some posts where drug efficacy had expired, the VHWs did not know what to do with them in view of their need to "account for all medicines."

Recommendation:

National protocol be developed which will enable health personnel at every level to dispose of their respective obsolete drugs in a simple but effective manner.

Problem 8: There is no standardized formulary for health huts approved by the medical authorities of the region. The problem is complicated by multiple sources of public and private procurement possibilities.

Recommendation:

The MOH should establish an essential medicines list for village level depots. This should be chosen from the WHO list of essential medicines.

Recommended drugs include:

Aspirin
Nivaquine
Paragoric
Aureomycin 1%
Aureomycin 3%
Ganidan
Solaskyl (to replace piperazine)
Ferrous Sulfate Tablets *
Permanganate Solution
ORT Powder **
Vitamin C

NOTE: * To be used by matrones in their prenatal care of clients.

** Project should consider health education for home preparation of salt/sugar solutions.

Problem 9: Village health workers have problems dispensing U.S. drugs as they are not familiar with their size, shape, markings, color and dosage.

Recommendation:

No drugs should be purchased from U.S. sources, unless compatible with new formulary.

Problem 10: Matrone kits often lack basic stock items.

Recommendation:

A better system of restocking of the matrone kits be provided through the village supply depot system.

(WHO Evaluation Criteria)

AREA	HUT	POST	DEPARTMENTAL	REGIONAL
1. PROGRESS	No longer plagued with prolonged voids.	For the most part are now able to keep huts stocked with essential drugs.	Have yet to develop adequate planning and implementation program.	In general can respond to needs of system in the provision of essential drugs.
2. RELEVANCE	Populace has developed a very positive attitude toward hut's service.	Enables huts to refrain from using commercial sources.	Does not facilitate timely movements of drugs through system.	Has generally strengthened entire system causing greater confidence in service delivery.
3. QUALITY	No standard procedures. Great fluctuations continue to exist.	Service personnel performing adequately but need further training.	Appears to be a lack of knowledge of necessary procedures to operate program.	Will improve further with recommended training & development of physical facilities.
4. EFFECTIVENESS	Numbers of clients have increased in proportion to decrease at post.	Response to hut needs has allowed post to focus more on major illnessess being referred.	Posts are quite often forced to bypass and go directly to regional level.	For the most part posts and depts. are satisfied with present service.
5. EFFICIENCY	Many huts are still experiencing spoiled medicines.	Inordinate amount of time is spent on inventory, ordering and processing.	Not able to respond to needs of post on a timely basis.	Turn-around time needs to be improved. Delays are caused by procedure deficits.
6. IMPACT	N/A Not able to measure, i.e., decrease in days lost due to illness morbidity, mortality.	N/A Same as hut.	N/A Same as hut.	N/A Same as hut.

XIII. FACILITIES

Background

Although the construction and renovation of facilities is not one of the major elements of the Sine Saloum project, it represents a sizeable investment and thus deserves comment by the evaluation team. The project grant agreement stated that by project completion, eight new health posts would be constructed and 51 health posts would be renovated. The grant also provided for the storing of medicines in each rural community, and some renovation of the Khombole school. A sum of approximately $79,000 was budgeted for this activity. The project is well on its way towards meeting these goals. In addition to the eight new posts built by the project, five additional new posts have been constructed through village labor and local financial support. Approximately 73% of the project renovation for the health posts have been achieved.

A health post is a simple three room building made from local materials, masonry and reinforced concrete. Generally, two rooms are divided from the third by a long corridor with doors at each end. Housing for the nurse is quite comfortable. Its proximity to the health post allows quick response in emergencies.

Observations

— The team only visited four of the eight new posts and several of the renovated, but we were assured by local health personnel that they were representative. Each nurse interviewed at these posts voiced satisfaction with their present situation and no suggestions for changes were offered. Local citizenry were also very pleased with the premises. The team did notice however some items which need attending.

Problem 1: Several of the newer buildings have large cracks in their retaining walls. In one of the new buildings (opened in November 1981), ceiling panels are hanging loose with large water stains covering the surrounding area.

Recommendation:

The Government of Senegal should be assigned the responsibility for maintenance and repair of buildings and an appropriate budget be set aside each year for this purpose. A procedure for reporting maintenance should be established.

Problem 2: Sanitary conditions in some posts were intolerable. The lack of water exascerbates this problem. Sometimes, the nurse does not have water to wash his/her hands before treating patients. In addition, since cleaners often do dressings, they tend to neglect cleaning duties.

Recommendation:

A water source should be installed in all posts either through the construction of a well or the construction of holding tanks. Also, a modest sum of money be allocated to hire a maintenance man. Supervisors should give in-service education on maintaining hygienic conditions in the health post premises as examples to villagers.

Problem 3: Latrines are in disrepair or abandoned and consequently are not being used by many posts.

Recommendation:

TAIs be charged with developing a special awareness program for all health posts and health huts. It will be especially important that the Comites de Gestion be given lead roles in these programs in order that there can be strong follow-up programs.

Problem 4: The basic design of the newer posts is not functionally adequate. Hallways are too narrow for waiting areas and movement, the examining room is too small, and storage space is inadequate. Posts also lack basic furniture.

Recommendation:

An architect should study the work patterns and patient movement in several posts in order to recommend structural changes. A standard furniture kit should be given to all posts from the budget of the Ministry. Donor assistance should be used for supplement rather than to replace this initial outlay.

XIV. HEALTH POST AND HUT UTILIZATION

The October 1980 Evaluation documented that the majority of health posts showed decreasing attendance (i.e., new diagnoses). The May 1982 Senegalese survey of forty of the sixty huts designated for special project efforts confirmed these earlier findings:

1. In villages and areas around the 40 huts of 756 villagers or potential beneficiaries interviewed, 98% of the men (238) and 92% of the women (458) used the health hut. In satellite villages, 96% of the men used the hut while only 83% of the women used it.

2. The survey showed that only 58% in satellite villages request the assistance of the trained matrone from the village with a hut. Although one cannot be sure why women are less likely to go to a hut in another village, several reasons were proposed. Men may have more time and mobility to travel and, secondly, each satellite village is likely to have its own traditional midwife from whom the women continue to seek services.

3. The average rate of visits per person interviewed was over 3 visits since the last rainy season (about 6-7 months before the survey). These visits included bringing a child for care.

4. Of those living in a village with a health hut, over 73% had made more than 3 visits, compared to 55% of those in satellite villages. Distance, therefore, may be a factor in how often one goes to the health hut. Other reasons may be preference for traditional healers and traditional midwives and/or non-acceptance of an unknown VHW.

5. Health visits to posts and huts double and triple during the August - October rainy season. The number of visits per person, therefore, for the rest of the year is likely to be less.

6. Eighty-seven percent of those living in villages with a health hut said they visited the health post less often. For those living in the satellite villages, 82% went less often to the health post.

7. The reasons most often cited for going to the health huts were treatment of malaria, conjunctivitis, wounds, diarrhea, headaches associated with malaria and stomach aches associated with diarrhea.

8. In an answer to the question as to what the hut services and preventive health measures need done for them, seventy-four percent cited time was a reduction in loss of time to obtaining care, 67% cited excellent treatment, 42% cited a reduction in the cost, and 27% mentioned improved rapport between villages.

The evaluation team data for health post visits in 1980 and 1981 showed a 40% decline.

1. POST VISITS 1980 - 1981

TABLE 1

Year	N'Gayene	Paoscoto	M'Bar
1980	10,299	21,700	9,954
1981	6,270	12,325	6,652

In an attempt to understand the relationship between post and hut visits, the team reviewed the data available on those huts supervised and supported by the posts at N'Gayene, Paoscoto and M'Bar. As the MIS began functioning only since last October 1981; the data avialable on huts is limited and, in some cases, incomplete.

2. PAOSCOTO COMMUNAUTE RURALE (C.R.) HEALTH VISITS

TABLE 2

HEALTH FACILITY	Aug. '79-April '80	Aug. '80-April '81	Aug. '81-April '82
HEALTH POST	26,653	9,184	9,372
HEALTH HUTS (10)	N/A	No data	11,862
TOTAL	26,653	?	21,234

3. N'GAYENE COMMUNAUTE RURALE (C.R.) HEALTH VISITS

TABLE 3

HEALTH FACILITY	Dec. '79-May '80	Dec.' 80-May '81	Dec. '81-May '82
HEALTH POST	3,944	3,070	2,251
HEALTH HUTS	N/A	No data	2,122
TOTAL	3,944	?	4,643

4. M'BAR COMMUNAUTE RURALE (C.R.) HEALTH VISITS

TABLE 4

HEALTH FACILITY	1980	1981
HEALTH POST	9,954	6,652
HEALTH HUTS	N/A	9,400
TOTAL	9,954	16,052

No definite conclusions can be drawn from the data from three posts and the huts associated with those posts. In all three posts, however, the number of post visits have declined significantly since the establishment of village health huts.

The evaluation team observed that at Paoscoto and M'Bar where there are competent nurses who appeared to be supervising and supporting their respective huts regularly, the number of health hut visits have begun to exceed the number of post visits. Each post is responsible for 10 huts and each post serves about 15,000 people.

The above characteristics in health hut utilization suggest the following:

— As evidenced by the growing utilization of huts, a post staffed with one nurse may be unable to serve, to consumer satisfaction, a population service area with as many as 15,000 people.

— As confirmed by a Canadian study in the Department of Gossas, VHW can siphon off as high as 60% of the health post patient load.

— The shorter travel time, waiting time, and lower costs of drugs at health huts outweigh in the mind of the consumer higher quality of care available at the health post.

— As Mead Over observed in A Report on the Recurrent Costs of Primary Health Care Projects in the Countries of the CILSS, it appears that the demand for care of less serious health problems is elastic as price and/or distance goes down. The data suggest (M'Bar and N'Gayene) that the lower cost care at the village hut has also influenced an increase in the demand for care of basic, less serious health problems that can be successfully treated at the level of the village hut by a VHW.

-- If, as the data suggest, the number of visits are shifting by at least 40% from posts to huts, the cost of medical supplies and drugs at the post may decline if the remaining case load does not change in complexity. If this is the situation, the health care cost burden for supplies is shifted from the post where it is financed by the MOH to the hut where it is financed by the population. Thus, the MOH recurrent cost burden may be less.

— The decrease in post utilization allows the post nurse to treat more serious medical problems and gives more time to supervision and support activities. The huts, in turn, are showing evidence of meeting a larger portion of the demand for health care.

The conclusions suggested above are knowingly based on data from only three out of 48 health posts in the project. The probability that the data reflects the other post utilization rates is very likely given the randomness of the selected three posts, the observations of the evaluation team and the results of the May 1982 survey of beneficiaries. If these conclusions accurately represent the impact of this project, continued support of this project is justified.

Recommendations

The project contract a minimum of two individuals (1 economist, 1 statistician) to compile and analyze available data to assess and measure the relationship between post and hut utilization. The purpose of the study should be to provide data for project and MOH decision on health manpower and resource allocation planning. The analysis should include the implications of utilization on the cost of PHC to the MOH and the beneficiaries. The consultant should also suggest how such data should be collected, stored and analyzed on a continual basis.

XV. HUT VIABILITY

Background

Since the inception of the project, the financial viability of the health huts has been a central concern of everyone involved in implementation. Over the past three years, there have been numerous attempts to extrapolate available data to determine hut autonomy and viability. In view of other assessments and time constraints, the evaluation team compared existing data with its own observations in the field to determine the relative financial viability of village health huts.

The 1980 evaluation found most of the health huts were in financial trouble. Since that time, villagers no longer pay a per visit fee for service to cover the salaries of three VHWs and finance the drug resupply. Experience showed that the fee-for-service rate was insufficient to cover both VHW salaries and purchase of drug and medical supplies.

Project staff, after a series of discussions with Senegalese after the introduction of the GOS policy to charge for health post visits, decided to eliminate a fee-for-service payment for hut services. The new project strategy called for:

1. Eliminating one VHW by combining the skills of the first aid agent with the hygiene agent into one single VHW;
2. Requiring beneficiaries to pay per unit of medication dispensed; and
3. Allowing each village to decide how and be responsible for remunerating the two VHWs.

Each village was to develop a method for compensating the VHW which would not jeopardize auto-financing of the drug supply.

In regard to VHW remuneration, the Senegalese evaluation survey showed that the majority of villages "motivate" VHWs by taking up a village collection once or twice a year. For the first aid/hygiene agent, the remuneration ranges between 14,000 to 22,000 CFA ($42 - $67) per year.

Matrones are generally paid from 250 CFA to 600 CFA ($1 - $1.80) per birth. In two cases, a village religious leader was functioning as the first aid/hygiene agent and did not accept payment. The second most frequent means of remuneration was through in-kind contributions. Generally, a field would be set aside, cultivated and harvested by the villagers and the produce would go to the VHW.

Financial ability to resupply medicines and medical supplies was more difficult to assess. The Senegalese evaluation survey studied forty huts in the four departments of the project and concluded that 26 of the 40 were viable when one added the sum-on-hand to the value of medicines-on-hand and matched that with the value of the initial stock supplied by USAID. However, many of the huts classified as non-viable huts are, in fact, viable. These huts show a small deficit for two major reasons. First, the VHW is compelled by social custom to treat his relatives free of charge. Secondly, the survey estimated about 10 to 11% of the stock-on-hand to be unusable due to expiration or spoilage. Villages, however, deal with the deficit by simply taking up a collection from all the villagers to cover the cost of resupply. By an accountant's standard, many of these huts are not financially viable, but in the African context, they are surviving financially. Certainly, some of the forty huts were in serious financial trouble and these cases need further investigation to determine the cause.

Observations

-- Among many village health committees interviewed, the team observed a willingness and ability to take responsiblity for the collection of funds, verification of stock, and procurement and distribution of supplies.

-- Villagers were paying for drug and medical supplies dispensed by the VHWs.

— In most of the huts visited, the team observed a simple accounting system of financial entries and withdrawals.

— In most of the eight huts visited by the team, the cash accounts showed an ability to replenish the essential village medication needs.

— In most cases, the record-keeping system is set up by the health post nurse and is, in general, regularly reviewed by the nurse.

— The team observed that almost all village health workers received some form of annual remuneration.

The following problems, however, need to be addressed:

Problem 1: Some drugs appear to be used infrequently and spoiled, other have high consumption rates. There is no system for determining a minimum inventory of essential medicines at the health huts and at the Communaute Rurale Depots in order to prevent shortages.

Recommendation:

Determine the average length of time required to replenish medicines at each level (Communaute Rurale and Health Hut) and establish 1) a minimum level of each type of medicines that should be kept on hand at all times, and 2) a recommended inventory level for each medicine and medical supply reordering.

Problem 2: Although each health hut uses a small supply, the team noted a general absence of any record-keeping on medicines and medical supply inventories. Absence of such records makes it more difficult to prevent medicine spoilage, to reorder promptly and to compare to revenues.

Recommendation:

At all levels, institute a means for keeping track of medicine and medical supply inventories at each level.

Problem 3: The Senegalese survey showed that villages which received the largest initial medicine supply from USAID fell well below the break even point which suggested difficulty in managing large inventories.

Recommendation:

Initially supply a basic minimum level of medicines and resupply as frequently as needed adding additional quantities of supplies until the resupply rate is established at a reasonable interval of time. Reinforce, through in-service training, health post nurse supervision of village health committee and VHW financial management of medicine supplies.

Problem 4: In several villages visited, the matrone was not being remunerated by traditional means nor village collection.

Recommendation:

Work with village health committees on developing responsibility for matrone remuneration.

XVI. PRESENT FISCAL ANALYSIS AND FINANCIAL IMPLICATIONS OF RECOMMENDED CHANGES TO GOVERNMENT OF SENEGAL

Chart 10 is illustrative of project expenditures by line item during the period of October 1, 1980 through July 31, 1982. Approximately $1,182,745 has been spent for the planned eleven line items. Approximately $417,191 remains as of July 31, 1982.

According to budget projections over the remaining six months, to December 31, 1982, it is estimated that expenditures will approach $195,143 resulting in a balance of approximately $245,167.

Tentative planning prior to the redesign of the project indicates that over an additional ten month period of time, excluding "frais de deplacement" for MOH regional and departmental staff as well as repair of mobylettes, the project would need approximately $246,890. This also assumes that the project will maintain the present level of technical assistance.

Although the U.S. team felt it was not within scope of work to perform a fiscal analysis of the project nor recurrent cost, it looked at the proportionate distribution of MOH and USAID costs which would be affected by the team's recommendations. The accompanying chart points out areas of specific recommendations. As can be seen, some adjustments will be necessary. It is anticipated that new costs for the Ministry will be minimal in the five year extension being recommended. Many of the costs associated with the modifications are already being subsumed under ministry.

The major project shift will be towards more supervision and training. For the project to succeed, effort will have to be invested in supervision and training. At present, training, including materials, represents only 9% of total project costs. With respect to supervision, transport expenses will be high during the first few years of a new program but as activities continue and workers become more self sufficient, there should be a gradual decrease.

CHART 10

FINANCIAL ANALYSIS OF PROJECT
AND FORECAST OF NO CHANGE EXTENSION

LINE ITEM	Planned Budget October, 1980 incl. accruals	Expenditures October 1980 to July 31, 1982	Forecast of Expenditures January to October 1983
Training	147,012	106,620	33,890
Materials and Supplies	7,500	- 0 -	- 0 -
Equipment and Furniture	57,735	119,703	28,000
Medicine	225,000	281,488	- 0 -
Vehicles	243,800	230,572	35,000
Local Salaries	84,140	39,776	25,000
Frais de Deplacement	100,580	42,816	- 0 -
Construction	179,000	78,342	- 0 -
Technical Assistance Health Status Survey	462,500	247,839	125,000
Evaluation	50,000	35,589	- 0 -
Contingencies	135,669	- 0 -	
TOTAL	$ 1,599,936	$ 1,182,745	$ 246,890

CHART 11

P = Personnel
O = Operating
T = Travel
C = Capital Outlay

RECOMMENDATIONS WITH SIGNIFICANT BUDGET IMPLICATIONS

CATEGORY	G.O.S. FINANCED		AID FINANCED		VILLAGE FINANCED	
	CONTINUE	NEW	CONTINUE	NEW	CONTINUE	NEW
	P		P		P	
PROJECT TO BE CONTINUED FOR FIVE YEARS	O		O		O	
	T		T		T	
A. MIS (Organizational Structure):						
1. Restructure project staff as PHC office within MOH		P	O T			
2. Fuse dept drug depot into regional depot	P O T					
3. Develop MOH regional vehicle depot	O	P O T		C		
B. TRAINING:						
4. Position for a PHC Nurse Training Coordinator be created		P	O T			
5. USAID/Dakar conduct 3 day seminar for medical officers and supervisors				P O T		
6. Train PHC personnel at all levels in how to organize and use data collected			P O T			
7. Project Coordinator to receive special training in personnel management, planning and data analysis			P O T			
C. SUPERVISION:						
8. Regional level TAI be designated responsible for post & hut level environmental health activities	P O		T			
9. All Department Nurse & Midwife Supervisors be appointed full-time to supervise PHC Act. at Dept, Post & Hut levels	P O		T			
10. All Dept Nurse Supervisors be given additional short-term training in supervision such as offered in Lomé, Togo	P		O T			
11. Four of the best TAIs be elevated to the dept level to undertake support and supervision of post level sanitation agents	P			O T		
12. All indemnities be eliminated over a six to eight month period of time			T (6 mos)			
13. Small feasibility study be performed to determine suffering of current vehicle repair credits at MOH to recurrent costs associated with regional MOH garage			P O T			
14. Regional and Dept Nurse Supervisors be taught to drive to avoid the necessity for additional MOH chauffeurs			P O T			
15. Health Post Nurse and TAI be trained in mobylette maintenance and basic repairs				P O T		

P = Personnel
O = Operating
T = Travel
C = Capital Outlay

CHART 11 (contd)

RECOMMENDATIONS WITH SIGNIFICANT BUDGET IMPLICATIONS (contd)

CATEGORY	G.O.S. FINANCED		AID FINANCED		VILLAGE FINANCED	
	CONTINUE	NEW	CONTINUE	NEW	CONTINUE	NEW
D. DRUGS:						
16. Regional Pharmacist be given extensive training in drug management				O T		
17. Nurses be given in-service training/ retraining regarding drug management skills necessary to function at each level of drug operation and usage			O			
E. FACILITIES:						
18. GOS be designated as the responsible entity for maintenance and repair of buildings	O					
19. Each post has own source of water		C				
20. MOH be designated to follow up construction of new posts with check list of equipment	O					
F. PREVENTION:						
21. A primary care training center be developed to be located in Kaolack	P O T			C		
22. Retrain village matrones and train rural maternity auxilliary midwives in pre-natal care, child nutriution surveillance and infant feeding				O		
23. Retrain the first aid/hygiene agent in child nutrition and infant feeding				O		
24. Offer the Regional Medical Officer in charge of the Office of Endemic Diseases the technical assistance of a CDC Epidemiologist and operations officer				P O T		
24. Conduct minimum of a three day workshop for TAIs & VHWs on health education				P O T		
G. GENERAL:						
25. Contract with a single qualified institution to provide periodic, short-term T.A. over the life of the Project				P O T		
26. Project immediately contract a minimum of two individuals (Economist & Statistician) to compile and analyze the available data to determine the relationship between post and hut utilization				P		

Equipment and modest construction costs in the second phase would be borne by USAID. However, gradual phase in G.O.S. input will lead to total assumption of costs by the end of Phase II.

Of the twenty-six recommendations which have budget implications (see chart), only four require new funding on the part of the G.O.S. Costs for one of the four was originally borne by the MOH - the project coordinator and training supervisor. They should return to government service, but at a higher level in the organizational structure.

In order to get an approximation of new costs with regard to recommendations, we have used 1981 actual cost figures to develop the following matrix (an inflation factor of 15% has been added in order to get closer to real costs):

NEW COSTS

	G.O.S	USAID	Village
Miscellaneous	78,820	160,000	
Training	5,000	10,000	2,520
Supervision		44,000	
Drugs		58,000	
Facilities	50,000		
Prevention		245,000	
Total	133,820	537,000	2,520

The Phase II design team will perform a more indepth financial analysis for the total project during the redesign of the project.

ANNEX A

GLOSSARY

Agent Sanitaire	Is a sanitation agent with one year of training.
Arrondissement	Political division between department and communite rurale subdivisions.
Auxilliary Midwife	Midwives with six month training located at the rural maternities.
CDC	Center for Disease Control.
CESSI	Centres d'Enseignement Superieur Soins Infirmiers (Center for advance nurse training).
Circonscritpion Medicale (CM)	Department level health center.
Comite de Sante	Village health committee (responsible for supporting the health hut including financial management of hut activities). At Communaute Rurale, a similar committee oversees the drug depot that supplies village health huts.
Communaute Rurale	The smallest formal political subdivision, of which there are 71 in Sine Saloum, established during the administrative reform.
Department	A political subdivision of which there are six in Sine Saloum.
GOS	Government of Senegal.
Maternite Rurale	Rural maternities attached to health posts.
Matrone	Village birth attendant.
Medecin Chef	The principal medical officer of a Region or Department.
MOH	Ministry of Health.
OMS	World Health Organization (Organisation Mondiale de la Sante).
Pharmapro (PNA)	Technically responsible for providing pharmaceuticals to the MOH health system. A source for resupply of health committee drug depots.

Prefet	Department level administrator within political structure comparable to a state.
Promotion Humaine	GOS ministry responsible for community development and related activities.
Region	A major political subdivision, of which there are eight in Senegal, including Sine Saloum.
RMO	Regional Medical Officer.
Sage Femme	A trained midwife located at the CM.
Secouriste/Hygieniste	First aid/hygiene village health worker responsible for services provided at village health huts.
Sous-Prefet	GOS administrator at Arrondissement level within political structure.
TAI	A sanitation technician graduated from a two-year program at the Khombole School and assigned to a health post to promote environmental health activities at the village level.
Village Health Worker	A village selected health agent trained to address basic health problems.

ANNEX B

SENEGALESE EVALUATION TEAM MEMBERS

Ministry of Health	Mr. ElHadj DIAME - Statistician
	Mr. Idrissa DIOP - Economist
	Both in Direction for Research, Planification and Training.
Ministry of Planning	Mrs. Astou DIAGNE - Economist
	Mrs. Rosaline MURRAY - Economist
	Both in Direction for Research, Planification and Training.
Ministry of Promotion Humaine	Mr. Ousmane SAMB - Director for Urban & Rural Sectors.
Ministry of Interior	Mr. Samba DIAKHATE - Civil Administrator for local collectivities.
Kaolack Aid Team	Mme. Aide LO - Project Coordinator
	Mr. Sangone MBOUP - Training Coordinator.
	Mr. ElHadj CISSI - Promotion Humaine.

WORK GROUPS FOR (DATA ANALYSIS)

Population	DIAME & DIAGNE
Health Committees	DIOP & MURRAY
VLHW	MBOUP & CHAPONNIERE
Nurses/Technicians	SAMB & CHAPONNIERE
Administrative Authorities	DIAKHATE & CHAPONNIERE

U.S. TEAM INTERVIEWS - NATIONAL LEVEL

	Minister of Health
Dr. Ba	Director, Research, Planning & Training
Mr. Mamadou LO	First Technical Advisor
Dr. Madiou TOURE	Director, Hygiene and Health Promotion
Dr. TSHYOA	World Bank Health Project, Coordinator for MOH
Dr. ELOM	WHO Representative
Mr. Boubacar SABALY	Population Survey Interviewer, Promotion Humaine
Mr. Mamour Alioune FAYE	Population Survey Interviewer
Mr. NDIAYE	Population Survey Interviewer
Ms. Souluymane Bacar LY	Population Survey Interviewer

USAID

Dr. David SHEAR	Mission Director
Dr. Mike WHITE	Health Officer
Mr. Mamadou JALLOW	Program Office

Consultant

Ms. Paulette CHAPONNIERE	Evaluation Coordinator

U.S. TEAM INTERVIEWS - REGIONAL LEVEL

Governor

Mr. Ousmane DIENE	Governor, Sine Saloum Region

Project Staff

Mrs. Aïda LO	Project Coordinator
Mr. Sangone MOUP	Training Coordinator
Mr. Peter HALPERT	Technical Assistant to Project Coordinator (MIS and Vehicle Systems)
Mr. Mamadou CAMERA	Manager, USAID Regional Medical Supply Depot

MOH Region

Dr. KANE	Medecin Chef, Regional
	Medecin Chef, Regional Adjoint Director Grandes Endemies
Madame DIOP	Nurse Supervisor

Promotion Humaine

Mr. NDIAYE	Director, Regional Office
Mr. ElHadj CISSE	Assistant Director, Sine Saloum

Department of Kaolack

Dr. Malik NIANG	Medecin Chef
Madame NDAO	Midwife Supervisor
Mr. SARR	Nurse Supervisor

Department of Nioro

Dr. Yassente DJOKH	Medecin Chef
	Prefet
Mr. Kalidou SOW	Promotion Humaine Departmental

U.S. TEAM INTERVIEWS - REGIONAL LEVEL (cont'd)

Department of Nioro (cont'd)

Mr. SAMORA	Promotion Humaine Departmental
Ms. Anna NGOM	Midwife Supervisor
Mr. Biram PATHE	Nurse Supervisor

Department of Gossas

Mr. FAYE	Departmental Pharmacist
Mr. DIENG	Nurse Supervisor

Department of Foundiougne

Mr. NIARIG	Health Post Nurse, Sokone

DEPARTMENT OF NIORO

Rural Community

N'Gayene

Mr. Delphien DIAO	Health Post Nurse
Mr. Saboye DIANOE	Sanitation Technician

Paos Cotto

Mr. Ousman BA	Health Post Nurse
Mr. Idrissa DIAO	Sanitation Technician
Mr. BOU	Sous-Prefet
	President, Rural Council

DEPARTMENT OF GOSSAS

Rural Community

Ouadiour

Madame Marianna N'DIAYE	Health Post Nurse
	Sanitation Technician
Mr. Dara SAMB	Rural Counsellor

US.S TEAM INTERVIEWS - REGIONAL LEVEL (cont'd)

DEPARTMENT OF GOSSAS

Rural Community

M'Bar

Mr. CAMARA — Health Post Nurse

Mr. Djib NGOM — Sanitation Technician

Lagane

Mr. Abdou DIENG — Health Post Nurse

Keur Gueye Village — Ouadiour

First-Aid Worker

Matrone

Darou Sacor Village - M'Bara

First-Aid Worker

Matrone

DEPARTMENT OF NIORO

Rural Community

TAIF Village

First-Aid Worker, Village Elder

Matrone

Village Chief

Daron M'Bapp Village

First-Aid Worker

Matrone

Rural Community Paos Cotto

Daron Saloum Village

First-Aid Worker

Matrone

ANNEX C

EVALUATION TEAM

SCHEDULED ACTIVITY

July 1,	U.S. Team Members arrive in Dakar and begin locally supplied project readings
July 5	Meetings with Ministry of Health Executive Staff
July 6	Meetings: Senegalese Evaluation Team Promotion Humaine Health Officer/Dakar
July 7	Meetings: AID Project Design Officer Minister of Health Health Officer/Dakar (cont'd)
July 8-9	Meetings: Senegalese Evaluation Team work groups CESSI staff and students
July 12	Depart for Kaolack Meet with Project staff
July 13	Visit USAID Region Drug Depot Interviews with Project staff Visit with Deputy Medecin Chef C.M.
July 14	Meeting with Promotion Humaine Regionale Field visits to Departments of Nioro and Gossas: • visit with Sous-Prefet • meeting with Health Supervisors • visit Departmental Drug Depot • visit new Health Posts
July 15	Return to Nioro and Gossas: • visit Health Huts and Posts • Meeting with Chief of Endemic Diseases • Briefings by Project staff
July 16	Visit with the Governor of Sine Saloum Field visits continued
July 17	Return to Dakar
July 19-29	Further meetings with Senegalese Evaluation Team, Health Officer/USAID/ Dakar Report writing.

ANNEX D

READING MATERIALS

- Breakdown of gas consumption and repair costs per project vehicle, 9/80 - 3/82
- (Working document) Les Soins de Sante Premiere au Sine Saloum: Evaluation des Depases Recurrentes du Projet, May 1982.
- Participation des Populations a L'Effort de Sante Publique: Principes et Directives Methodologiques, July 1980. (Pamphlet published by Ministry of Public Health, Senegal).
- Senegal FY '83: Country Development Strategy Document, (Supplement, February 1982).
- Planning Pharmaceuticals for Primary Health Care: The Suply and Utilization of Drugs in the Third World, Gish, Feller, APHA, 1979.
- (Draft) World Health Organization: Provisional Guidelines for Health Program Evaluation.
- Guidelines for Analysis of Pharmaceutical Supply System Planning in Developing Countries, OIH Series #7.
- 1977 Sine Saloum Rural Health Project (Project Paper).
- Memorandum: Linda Neuhauser to Clive Grey/Mead Over. Subject: Recurrent Costs in Sahel Health Projects, May 22, 1979.
- A Monitoring and Evaluation Plan for USAID Assistance Program in Senegal, Nena Vreeland, Bush, Tapsoba, December 15, 1981.
- Senegal: The Sine Saloum Rural Health Care Project, Project Impact Evaluation No. 9, October 1980.
- The Rural Health Services Developmental Project in the Sine Saloum Region of Senegal: Technical Assessment and Analysis, John Kennedy, August 1980.
- Project Paper Amendment Number 1 (No. 685-0210): Rural Health Services Development Project, September 1980.
- Amendment No. 6 a l'Accord de Subvention Entre le Gouvernement de la Republique du Senegal et les Etats-Unis d'Amerique pour le Projet de Developpement de la Sante Rurale, Signed June 12, 1981.
- Evaluation Criteria, Developed by the Project Redesign Team, 1980.
- Recurrent Cost in the Sahel: Chapter III: Rural Primary Care in Senegal, Mead Over, (no date on available copy).

- A Study of the Financing of the Health Sector in Senegal, A. Mashayekhi, October 1981.

- An Analysis of the Medicine Distribution System of AID/Senegal Sine-Saloum Rural Health Project, James W. Herrington, Jr., Public Health Technician for Community Development, Daolock, October 1980.

- AID, Senegal FY 1983 Country Development Strategy Statement, February 1982.

- Senegal Health Strategy, 1981.

- Questionnaires, Data, and Analysis of a Sine Saloum Population Sample covering: health committee activity and training, villager participation in project activity, training and functioning of Health Post Nurses and Sanitation Agents, an assessment of the financial status of a sample of project villages.

- Copies of project report formats and data summaries.

- (Project Report) "Execution de la Premiere Tranche du Projet", Mrs. Aida Lo, Project Coordinator, 1982.

- "An Analysis of the Medicine Distribution System of the AID/Senegal Sine-Saloum Rural Health Project", James E. Herrington, October 1980.

- "Rapport de Tournee Effectuee dans le Departement de Nioso du 17 Novembre 1980 au 28 Janvier 1981, Projet Senegal/USAID du Sine-Saloum, April 1981.

- Training Manual for First Aid Agents.

- Training Manual for Hygienists.

- Training Manual for Matrones.

- Memory Aid for Matrones.

- Memory Aid for First Aid Agents.

- Senegal MOH Budget.

- (An Outline) "The Management Information System" (the proposed system in outline included also Annex 5 in Project Redesign Paper).

- Republic of Senegal - Sixth four year Plan of Economic and Social Development: Guiding Principles and Sectoral Programs (1981/1985).

- (Draft) Project Evaluation Summary - (Interim) Senegal Rural Health Services Development Projet No. 685-0210, Submitted by Linda Neuhauser, AFR/SFWA/SDP, May 1979.

- La Reforme de l'Administration Regionale et Locale: Illustrations, Commentaires et Textes de References, UNICEF.

Région Sanitaire du Sine-Saloum.